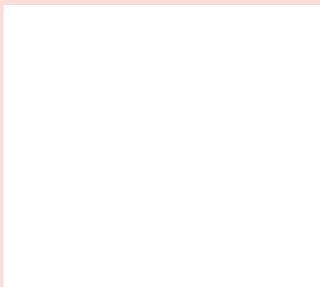


# AGRICULTURAL OUTLOOK



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## Bumper Citrus . . . Rail Bottlenecks . . . Pork Production & Environmental Concerns . . . Meat Exports . . . Reforms in Argentina

### Good Weather Nets Abundant Citrus Crops in 1997/98

*Large U.S. citrus crops* will likely keep grower and retail prices for most citrus (fresh and processed) at or below 1996/97 levels well into the summer. U.S. orange production is forecast record-high at 14.3 million tons, up 12 percent from last year, due to favorable weather in Florida and California and expanded acreage in Florida. Despite large crops and significant stocks of frozen concentrated orange juice (FCOJ) in both the U.S. and Brazil, near-term futures contract prices for FCOJ on the New York Cotton Exchange have rebounded to 97 cents per pound solids in mid-February since bottoming out in October.

U.S. grapefruit producers also foresee another large crop this year, although nearly 6 percent below a year ago. Supplies remain abundant, and as a result, prices have dropped and grower revenues have shrunk. After several years of poor returns, the Florida grapefruit industry is now pondering supply control options.

### Rail Problems Disrupt Marketing Flows

*Rail congestion in the western U.S.* during the second half of 1997 on the Union Pacific/Southern Pacific (UP/SP) and Burlington Northern Santa Fe (BNSF) lines snarled traffic and brought freight shipments in some areas to a complete halt. In the fourth quarter of 1997, grain carloadings dropped 6 percent on BNSF and 28 percent on UP/SP from a year earlier.

The 1997 western rail service problems, resulting from the inability of the largest grain hauling railroads to position and move their equipment, were substantially different from equipment shortages and service delays commonly referred to as "rail car shortages," which result from high demand. The crisis provides an example of the increased importance of an adequate grain handling and transportation infrastructure in an era when grain production and marketing decisions are driven by market signals, not government programs.



### World Hog Production Faces Environmental Constraints

*Exports of the major pork exporting countries* grew at an annual rate of 4 percent during 1989-97, and USDA's baseline projection indicates continuing growth in international pork trade into the next century. The extent to which the four leading pork exporting countries—the U.S., Canada, Denmark, and Taiwan—can meet forecast growth will be determined largely by the ability of their pork industries to expand.

An adequate land base for spreading manure residues is essential. With virtually insurmountable land constraints in small, densely populated Taiwan and Denmark, the U.S. and Canada with their relatively large land endowments had seemed the most likely to expand production. However, public demands for stricter governmental regulation may also constrain hog production in the U.S. and Canada. As a result, world pork prices could increase more sharply than expected as demand increases over time. Higher prices may stimulate further expansion of hog industries in countries like Mexico and Brazil with large land endowments, good feed supplies, and low levels of regulation.

### Asia Events Trim U.S. Meat Export Prospects

*Economic turmoil in Asia* is expected to trim U.S. meat export prospects in 1998. As Asian currencies depreciate and incomes fall, demand will contract in some key Asian markets and competition will increase from other countries whose currencies are also losing value against the U.S. dollar. At the same time, the relatively strong dollar is making the U.S. market more attractive to foreign meat exporters seeking alternatives to Asian markets. Due largely to declining sales to Japan and South Korea, U.S. beef and pork exports are likely to fall in 1998, and poultry exports will see slower growth. U.S. beef imports are expected to rise, as the decline in U.S. cow slaughter and a strong U.S. dollar enhance marketing opportunities for Australia and New Zealand, the leading exporters of processing beef.

### Reforms in Argentina Spur Agricultural Growth

*A combination of dramatic economic reforms* and strong price incentives in Argentina during this decade have set the country on course to reach its full agricultural production and trade potential. The reforms have reined in inflation, reduced or rescinded agricultural export taxes and input tariffs, and privatized much of the transport infrastructure, leading to lower marketing costs and greater investment. Argentine farmers were able in 1996/97 to respond to strong world crop prices with a substantial increase in harvested acreage and in use of inputs.

Extremely favorable weather is expected to put total grain production in 1997/98 at 36 million tons and total oilseed output at 23 million tons—both records. USDA's 1998 baseline projects modest growth in Argentina's grain and oilseed output during 1997/98-2007/08. Argentina's livestock sector has benefited less from the reforms than have the grain and oilseed sectors. But most observers expect a turnaround in 1998 as the cattle industry follows the crop sector in adopting new technology and improving management practices.

## Agricultural Economy



Jack Harrison

### Rail Problems Disrupt Grain Shipments

The 1997 U.S. grain harvest was the second largest on record. U.S. production of corn, soybeans, wheat, sorghum, barley, oats, and rye totaled 15.8 billion bushels. Only the 1994 crop, with its 16.2 billion bushels of grains and soybeans, surpassed 1997's bumper crop. The harvest included the largest soybean crop and the third-largest corn crop ever recorded. But for all that, many grain shippers and receivers will remember this harvest for another reason—severe rail congestion.

During the second half of 1997, rail congestion in the western U.S. snarled traffic and brought freight shipments in some areas to a complete halt. Agricultural shippers in the southern Plains and western Corn Belt, like many other rail shippers in those regions, experienced serious rail service disruptions and lengthy shipment delays throughout the last half of 1997. The severity of the western rail service problems ultimately resulted in emergency action by the Surface Transportation Board (STB), the Federal agency responsible for oversight and regulation of the Nation's railroads. Only since late December has the situation improved substantially.

Rail service disruptions create serious problems for grain shippers, particularly in

the western U.S. In 1995, 40 percent of all grain shipments moved to market by rail. For wheat, a key crop in the southern Plains, railroads move 60 percent or more of all shipments and as much as 75 percent of all export shipments. Even in the eastern U.S., where truck and barge transportation is more important, rail still accounts for more than 40 percent of all corn and wheat shipments. With railroads shipping more than 4.7 billion bushels of grain, on average, each year since 1990, any substantial rail service problems severely restrict the capacity of the entire U.S. grain handling and transportation infrastructure.

Starting in July, the recently merged Union Pacific/Southern Pacific Railroad system (UP/SP) experienced a cascading service failure. While opinions differ as to the actual precipitating cause, the difficulties first manifested themselves in the Houston, Texas, area.

Houston is home to many petrochemical facilities and is a critical port and rail hub. Too many cars were permitted into Houston's Englewood Yard, slowing the yard's operational efficiency and forcing incoming trains to pull into sidings before entering the yard. While trains were holding in the sidings, waiting for congested main lines and switching yards to clear,

the 12-hour crew service limits specified in UP/SP's labor agreements expired. This forced UP/SP to find new crews, already in short supply because of growing traffic levels.

The problem worsened quickly. Crew shortages and congestion tied up locomotives badly needed elsewhere on the UP/SP system. UP/SP began to shift crews and locomotives from other parts of their system into the Houston area, but this simply compounded the problem.

Stronger-than-anticipated intermodal and petrochemical demand, incompatibility between the computer systems used by UP and SP, slow implementation of labor agreements between UP management and SP union employees, lack of adequate locomotive power, and a series of train accidents also served to complicate UP/SP's early attempts to reduce the Houston congestion. Some of these problems, particularly the shortage of locomotive power, reflected long-term operating problems inherited from the cash-strapped SP when UP acquired the line in 1996.

As UP/SP congestion snowballed, the fall harvest shipping season went into full swing. Troubles on the beleaguered UP/SP quickly spread to areas outside the southern Plains and to the other major grain-hauling western railroad, the Burlington Northern Santa Fe Railway Company (BNSF).

#### *Western Feeders & Country Elevators Hardest Hit*

Western livestock and poultry feeders located outside the traditional Grain Belt, and grain shippers in the southern Plains and western Corn Belt, were severely affected by the rail service problems that began in July and hindered grain shipments throughout the rest of 1997. Particularly hard hit were the country elevators in these regions that buy grain directly from producers and ship to domestic users or to larger interior and export grain handling facilities.

Disruptions and delays in rail service forced many western livestock and poultry feeders to shift to truck transportation for their feed supplies. Poultry feeders in Arkansas and east Texas shifted to grains

and feed products trucked from inland river points or from as far away as Missouri and Iowa. Western Plains hog feeders and California feedlot operators scrambled to secure steady supplies of feed grains and feed ingredients normally delivered by rail.

The problems that began for western feeders as early as August subsided substantially by mid-November. Country elevator shippers, however, continued to suffer from rail service problems. Shippers in the southern Plains states of Colorado, Kansas, Oklahoma, and Texas experienced service problems first and perhaps to the greatest extent. The size of the hard red winter (HRW) wheat crop surprised most observers. Production estimates for the four states increased throughout the summer as yield predictions grew from the trend estimates of 29.5 bushels per acre in early May to 35.3 bushels per acre by August.

Yields in Kansas, estimated in May at 32 bushels per acre, actually totaled 46 bushels per acre when the harvest was completed. The increased yield in Kansas alone added 150 million bushels of wheat to the crop. The unexpectedly large wheat crop and strong market signals to carry stored grain forward in expectation of higher prices left many grain elevators in the southern Plains full to capacity with little or no room for the record feedgrain harvest that followed.

Country elevator shippers in the western Corn Belt and corn producing areas of the northern Plains also experienced serious rail service problems during the final months of 1997. To a great extent, the rail service disruptions and delays in these areas were a spillover from problems that had started in the southern Plains. As congestion on UP/SP increased and demand to move grain grew with the fall harvest, service disruptions spread northward. Shippers in Minnesota, Nebraska, and the corn producing areas of North and South Dakota experienced these problems as the harvests in their areas came into full swing. Country grain shippers, particularly in Nebraska, experienced rail car placement delays and car order backlogs on UP/SP that often exceeded 30 days. Delays and backlogs for grain car orders were nearly as bad on BNSF, which ulti-

mately was forced to cancel some of its guaranteed rail car service during the worst of the problems in November.

The inability to move harvested feed grains, particularly corn, forced many country elevator shippers to pile grain outside as they waited for empty rail cars that should have been at their facilities days or weeks earlier. With the approach of winter, the risk of quality deterioration in these outdoor grain piles increased rapidly. USDA's Farm Service Agency (FSA), which administers warehousing operations under the Commodity Credit Corporation, reported requests for emergency grain storage permits that totaled 93.7 million bushels at their peak in early November.

Only one state requesting emergency storage was east of the Mississippi River. Of the remaining states, Nebraska and Kansas led with requests totaling 45.9 and 18.6 million bushels. The 1997 FSA requests were the largest since the mid-1980's. Facilities not party to an FSA Uniform Grain and Rice Storage Agreement also reported outdoor storage, raising even further the total amount of grain piled outside awaiting shipment.

### 1997 Rail Disruption Unlike Typical "Rail Car Shortage"

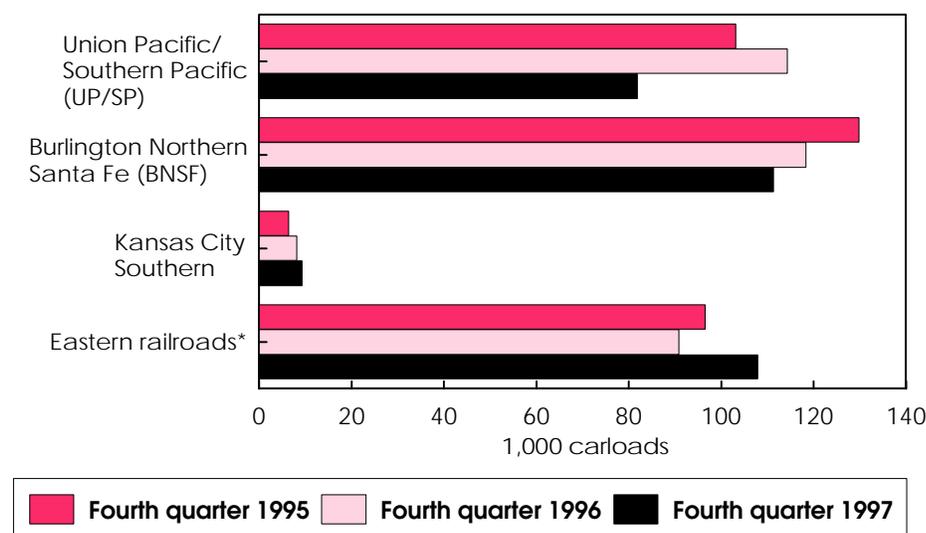
This past year's rail service problems were substantially different from the equipment shortages and service delays commonly referred to as "rail car shortages." Such shortages are typically associated with periods of strong demand for grain transportation driven by high levels of grain demand, especially for export.

In such markets, current grain prices typically exceed those for grain delivered months or even weeks in the future. These conditions create very real pricing signals for farmers and shippers to move grain now, not later. This can quickly overwhelm the shortrun capacity of the transportation system and leave many shippers waiting for available rail equipment.

Shippers have routinely experienced these types of problems in the past few years. By contrast, 1997's service problems resulted from the largest grain hauling railroads' inability to position and move their equipment—not from an overwhelming demand for grain transportation.

During the last half of 1995, when export demand was strong and many western

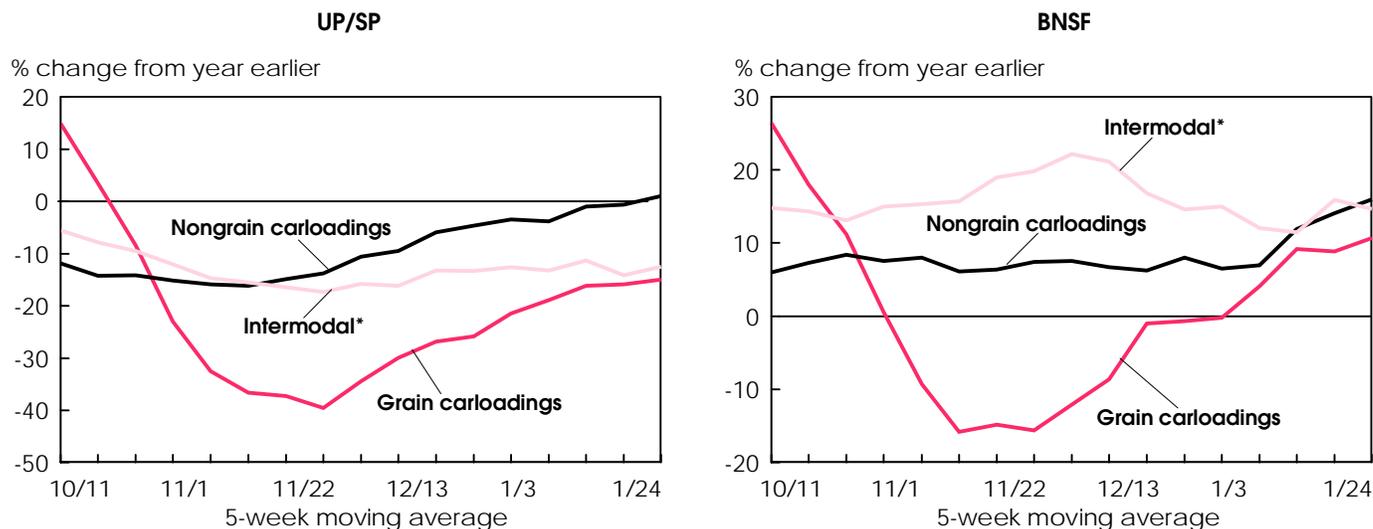
### Western Grain Carloadings in Late 1997 Reflected Rail Problems



\*Includes Conrail, CSX Corporation, Illinois Central Railroad Company, and Norfolk Southern Corporation.  
Source: Association of American Railroads.

## Agricultural Economy

### Fourth-Quarter Grain Carloadings Down Sharply, in Contrast to Nongrain and Intermodal Shipments



1997/98 data.

\* Intermodal shipments can be carried by more than one mode (e.g. truck, rail, barge) and are often high-value merchandise that carry penalties for late delivery.

Source: Association of American Railroads.

Economic Research Service, USDA

Corn Belt and northern Plains shippers experienced serious rail equipment shortages and service problems, grain carloadings on the major railroads averaged 29,000 per week. Grain carloadings during the last half of 1997 averaged just 22,800 per week.

The seriousness of the UP/SP and BNSF congestion problems and their substantial effect on shippers during the closing months of 1997 are apparent from comparisons of 1996 and 1997 quarterly grain carloadings on the major western railroads—BNSF, Kansas City Southern (KCS), and UP/SP. Third-quarter 1997 versus 1996 grain carloadings were up on all three of the western railroads but fell sharply during the fourth quarter of 1997 on BNSF and UP/SP. In the third quarter, BNSF was up 17 percent and KCS and UP/SP were up 10 percent over the previous year. In the fourth quarter, KCS carloadings were up 13 percent, but dropped 6 percent on BNSF and 28 percent on the troubled UP/SP. Taken together, grain carloadings on the three railroads were down an average 2,950 per week during the fourth quarter of 1997. This amounts to over 10 million bushels less of grain being moved each week during October-December 1997, compared with 1996.

Export grain shipments were also affected by the western rail problems. Although rail shipments of grain to export facilities nationwide during the fourth quarter of 1997 were virtually unchanged from 1996, rail shipments to export houses along the Texas Gulf Coast were down 10 percent.

Despite congestion-related reductions in rail capacity, greater use of truck and barge transportation in the southern Plains allowed exports of HRW wheat to increase 60 percent in the fourth quarter of 1997 over 1996—HRW wheat export inspections at Texas and Louisiana export elevators showed increases of 74 and 288 percent. The nearly three-fold increase in HRW wheat export inspections at elevators along the Mississippi River in Baton Rouge and New Orleans, Louisiana, reflect increased barge shipments of HRW wheat. These barge shipments originated from inland river facilities in Oklahoma along the Arkansas River and at Kansas City on the Missouri River.

Not all of this shift to barge transportation was driven by the western rail problems. But the share of HRW wheat exports moving off the Mississippi River did increase from 4 percent during the fourth quarters of 1994-96 to 10 percent during the fourth quarter of 1997.

### Surface Transportation Board Takes Emergency Action

As the scope of the railroad service problems in the western U.S. became evident, shippers began to press the STB for relief. In response, STB instituted a proceeding (STB Ex Parte No. 573) and scheduled a public hearing to provide individuals an opportunity to report on the status of rail service in the western U.S. and to review proposals for solving the service problems.

All of the western railroads and a variety of shippers, shipper groups, and local and state officials participated in this public hearing, held in Washington, DC, on October 27, 1997. USDA, fulfilling its statutory authority and responsibility to represent the transportation interests of agricultural producers and shippers by participating in STB proceedings, reported concern about the declining quality of western railroad service, particularly about how these service problems were affecting grain storage.

Following this public hearing, STB concluded that a transportation emergency did exist. To facilitate a resolution, STB directed that a number of specific actions be taken to address the severe congestion

problems affecting the Houston area and to free up facilities throughout the UP/SP system. By using its emergency powers so aggressively, STB confirmed the severity of the rail service emergency—STB’s emergency powers are rarely invoked except when a railroad ceases operations due to bankruptcy. At the request of USDA, STB required UP/SP to make a weekly report detailing its service performance to agricultural shippers.

By law, the STB can direct service only on a temporary basis. With its 30-day service order scheduled to expire, the STB scheduled another public hearing on December 3, 1997. At the hearing, USDA reported that there had been little, if any, improvement in western railroad service to agricultural shippers. As evidence, USDA noted that grain shipments on both UP/SP and BNSF had fallen dramatically compared with prior-year levels. The amount of grain approved for emergency storage, USDA added, was almost entirely related to the inability of the western railroads to provide adequate service to agricultural shippers.

The following day, STB found that although service was showing some signs of improvement, the transportation emer-

gency in the West continued to exist. STB then extended and modified its service order for an additional 90 days. Agricultural commodities were recognized as a key concern, and STB ordered both UP/SP and BNSF to provide weekly reports of their agricultural transportation performance.

Since early December, service provided by the BNSF has returned to normal levels, but UP/SP continues to lag its prior-year performance.

### Grain Output & Storage Affect Rail Demand

The differences in factors that lead to a smooth postharvest shipping season and those that result in one like 1997’s can be relatively small. The level of production and carry-in stocks of grains and soybeans relative to available storage provides a good indicator of the need for harvest-time grain transportation. In 1996, when shippers experienced few problems during the postharvest season, grain and soybean production totaled 15.3 billion bushels, just 3 percent lower than in 1997. With the addition of carry-in stocks, this volume of grain amounted to 88 percent of total on- and off-farm storage capacity.

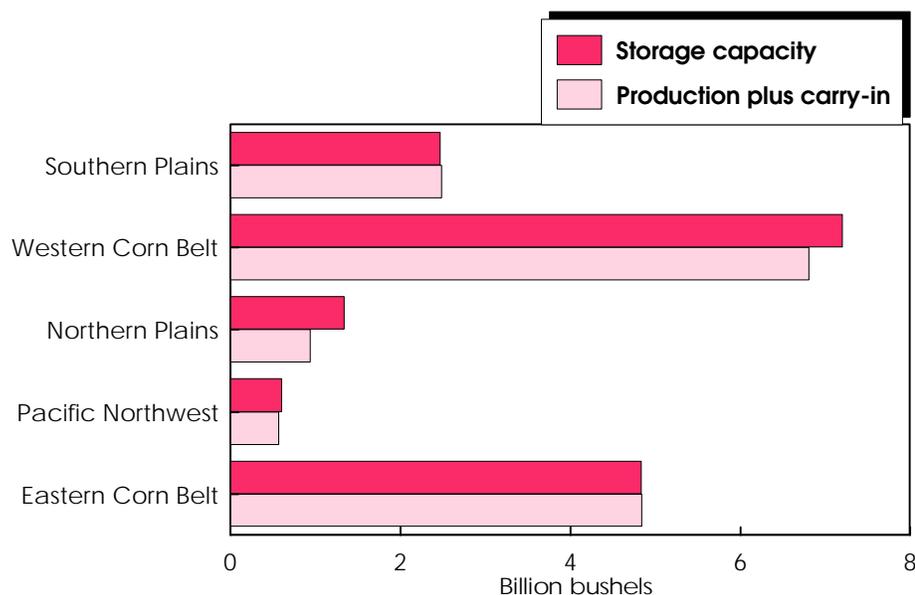
(Storage capacity at export facilities is not included in off-farm capacity in these comparisons.) In 1997, with carry-in stocks up 43 percent, production plus carry-in equaled 94 percent of total storage capacity—up just 6 percentage points from 1996.

However, this measure—production and carry-in stocks relative to storage—was not uniform across the U.S., indicating the importance of providing adequate rail service to key producing regions. In the hard-hit southern Plains states of Colorado, Kansas, Oklahoma, and Texas, production and carry-in stocks equaled 101 percent of storage capacity. In Kansas, possibly the state most adversely affected by the rail service problems, production and carry-in was 117 percent of storage capacity. In the western Corn Belt states of Iowa, Minnesota, Missouri, Nebraska, and South Dakota, production plus carry-in totaled only 95 percent of storage capacity for the region, but for the states most affected by the rail problem—Missouri, Nebraska, and South Dakota—the measure was 100 percent.

In the eastern Corn Belt—Illinois, Indiana, Michigan, Ohio, and Wisconsin—production and carry-in stocks also equaled 100 percent of storage capacity. Shippers in these states, however, faced only minor rail-related transportation problems. Slowed shipment times and delays in placements of empty grain cars for loading were largely the result of high grain transportation demand in the East. Some covered hopper rail cars used to move fertilizers into the West during late summer were also trapped in the western rail congestion and slow to return to eastern railroads for harvest-period grain service.

The availability of barge and truck transportation, however, combined with increased service by the eastern railroads—Conrail, CSX Corporation, Illinois Central Railroad Company, and Norfolk Southern Corporation—kept harvested grain moving out of local facilities. Grain carloadings on the eastern railroads actually increased by 19 percent during the fourth quarter of 1997, compared with 1996.

1997 Grain Production and Carry-in Stocks Were Close to Storage Capacity in All Regions



Source: National Agricultural Statistics Service, USDA. Economic Research Service, USDA

## Agricultural Economy

A wide variety of factors affect the Nation's grain marketing and transportation infrastructure. These factors can contribute to an efficient and smoothly operating marketing system or grind the system to a halt, forcing country grain elevators to pile grain outside and leaving grain users struggling to meet short-term needs. As 1997's western rail service crisis demonstrated, operating problems that begin on a single railroad can quickly snowball into widespread service disruptions that affect shippers and receivers in many regions.

The 1997 western rail service crisis provides an example of the increased importance of an adequate grain handling and transportation infrastructure in an era when grain production and marketing decisions are driven by market signals, not government programs. Producer planting and

marketing flexibility is dependent upon the ability of the grain handling and transportation system to adjust quickly to changing market conditions and customer needs.

The actions taken by STB in response to last year's service problems were one-time emergency actions directed specifically at the UP/SP situation. Those actions are presently set to expire on March 15, 1998. Rail transportation problems, however, will likely confront grain shippers again. While the outcome may be much the same, the causes of future problems will likely be substantially different from those that led to the 1997 western rail service emergency.

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### Upcoming Reports—USDA's Economic Research Service

The following reports will be issued electronically on dates and at times (ET) indicated.

#### March

- 3 *Aquaculture\**
- 4 *Free Trade in the Americas\**
- 5 *Wheat Yearbook\**
- 13 *Cotton and Wool Outlook (4 p.m.)\*\**
- 20 *Agricultural Outlook\**
- 23 *U.S. Agricultural Trade Update (3 p.m.)*
- 26 *Fruit and Tree Nuts\**

\*Release of summary, 3 p.m.

\*\*Available electronically only

### In upcoming issues of *Agricultural Outlook* . . .

- \* Overview of USDA baseline projections for the agricultural sector to 2007
- \* Precision farming
- \* Economic returns from biotechnology research—wheat vs. corn
- \* Interest-rate outlook

## Briefs

**Livestock, Dairy & Poultry****Asia Crisis To Trim Prospects for U.S. Meat Exports**

The economic turmoil in Asia is expected to trim U.S. meat export prospects in 1998. As Asian currencies depreciate and incomes fall, demand will contract in some key Asian markets and competition will increase from other countries whose currencies are also losing value against the U.S. dollar. At the same time, the relatively strong dollar is making the U.S. market more attractive to foreign meat exporters seeking alternatives to Asian markets. As a result, net exports of U.S. red meats are expected to shrink in 1998, adding to already abundant U.S. meat supplies.

The weakening of demand in Asian markets stalls growth in what has become a flourishing outlet for U.S. meat exports. Rising incomes and changing dietary preferences in developing countries, as well as negotiated reductions in trade barriers worldwide, have resulted in a rapid increase in world meat trade since the late 1980's.

The U.S., with a large domestic market, plentiful feedgrain supplies, and a well-developed meat infrastructure and marketing network, was poised to take advantage of the rising demand for meat. The U.S. beef sector benefited greatly from the growing international market for high-quality grain-fed beef, and the poultry sector found an outlet for lower priced dark meat products preferred by Asia, Mexico, and the Newly Independent States of the former Soviet Union.

In the period since the late 1980's, the strong export market induced a dramatic shift in the U.S. trade balance for meats. U.S. meat imports during the period declined slightly, while U.S. meat exports—led by poultry—rose rapidly. In 1992, the U.S. became a net meat exporter instead of a net importer, and net meat exports rose each year from 1992 to 1997. With negotiated reductions in trade barriers, the U.S. was able to match products to markets, increasing the exported proportion of domestic meat production from 3 percent in 1988 to 11 percent in 1997.

Since 1995, the growth of world meat trade has been slowed by several disease outbreaks (bovine spongiform encephalopathy or "mad cow" disease, foot-and-mouth disease, swine fever, and avian influenza), as well as food safety concerns (*E. coli* and listeria). The recent economic problems in Asia and the weakening currencies of traditional U.S. meat importers such as Canada are creating further challenges to trade growth.

U.S. *beef exports* are likely to decline 7 percent to about 1.99 billion pounds in 1998, in contrast to a 14-percent rise in 1997 from the previous year. While sales to Mexico are expected to increase, they will likely be offset by declining sales elsewhere, primarily to Japan and South Korea.

In Japan and Korea—two key markets for U.S. meat—Australian beef is becoming more attractive. As the U.S. dollar appreciated against Asian currencies between June and December 1997, Japan's yen declined 12 percent against the U.S. dollar but remained steady against the Australian dollar. In Korea, the won fell 67 percent against the U.S. dollar but only 49 percent against Australia's currency.

If the current trend in exchange rate movement continues into 1998, the U.S. could see an erosion of market share in Japan and Korea, especially since U.S. fed-cattle prices are expected to increase about 2 percent in 1998. Continued weakness in the Australian dollar against the yen could mitigate the price rises in

Australia's short-fed and higher quality range-fed beef, which is preferred by the Japanese market. But the loss of U.S. market share will likely be less in Japan than in Korea, whose economy has been severely affected by the Asian events.

Korea is required to import at least 187,000 tons (product weight) of beef in accordance with its Uruguay Round commitments. In 1998, 40 percent of the imports will be through tenders, which can in effect steer demand toward products of a specific quality, making exchange rate movements less important. But the remaining 60 percent, imported under the Simultaneous Buy-Sell (SBS) system, will likely be driven by cost concerns.

Although the collapse of the won has made Korea's imports from all sources more costly, weakness in the Australian dollar against the U.S. dollar could make Australian beef more desirable. Given Korea's shortage of foreign exchange, tenders will likely seek the lowest value products, and purchases under the SBS system will be very price-sensitive. As a result, imports under both the tender and the SBS system will tend to favor Australia, causing U.S. export shares in Korea to fall significantly.

U.S. *beef imports*, after falling in the mid-1990's, rose 13 percent in 1997 and are expected to rise an additional 15 percent in 1998. As the liquidation phase of the U.S. cattle cycle ended, cow slaughter declined sharply, opening the U.S. processing beef market just as Asian currencies and those of Australia and New Zealand were devaluing against the U.S. dollar. This provides a marketing opportunity for Australia and New Zealand, the leading exporters of processing beef and by far the two largest suppliers to the U.S.

**U.S. Exports of Red Meat To Decline From High Levels of 1997**

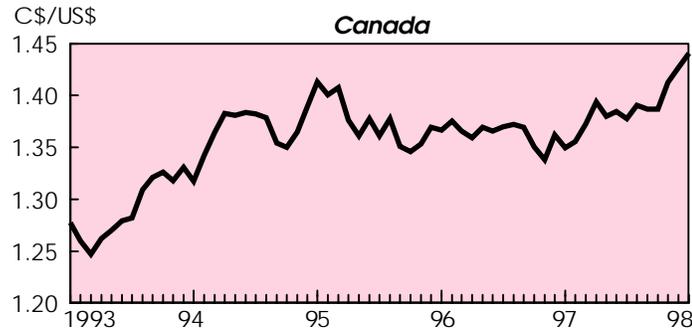
	Beef & veal	Pork	Broilers	Turkey	Other chicken
	Million lbs				
1993	1,275	446	1,966	244	56
1994	1,611	549	2,876	280	90
1995	1,821	787	3,894	348	99
1996	1,887	970	4,420	438	265
1997	2,136	1,044	4,664	598	384
1998	1,985	990	4,750	610	390

1997 preliminary; 1998 forecast.  
Economic Research Service, USDA

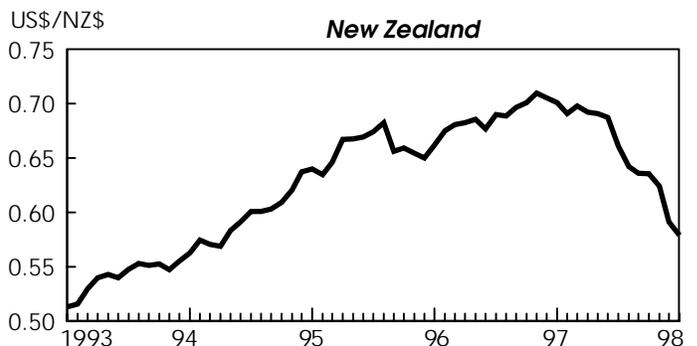
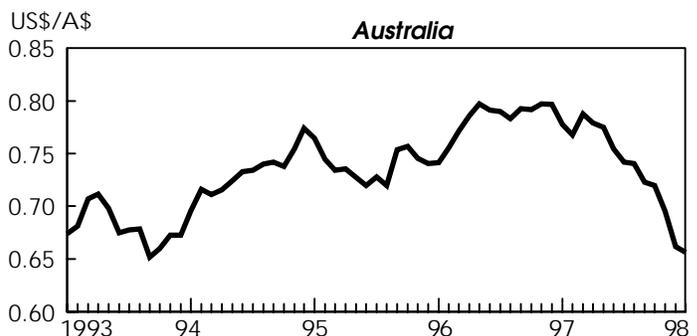
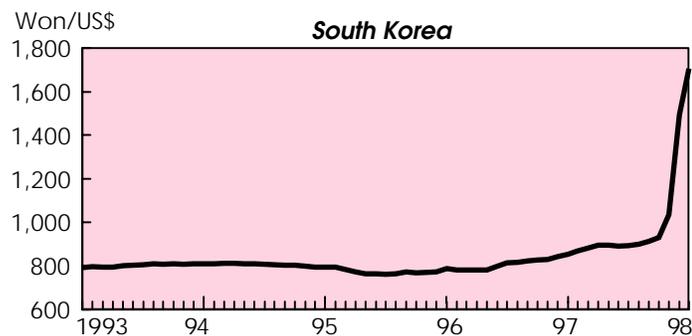
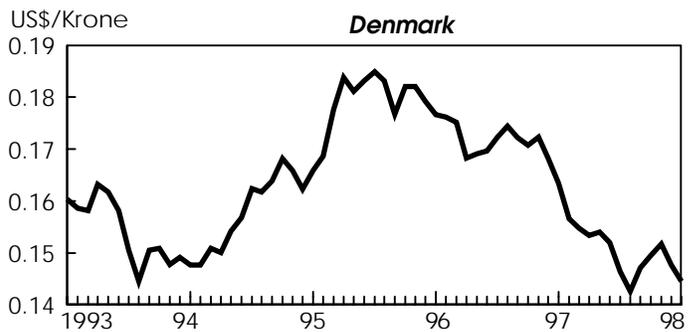
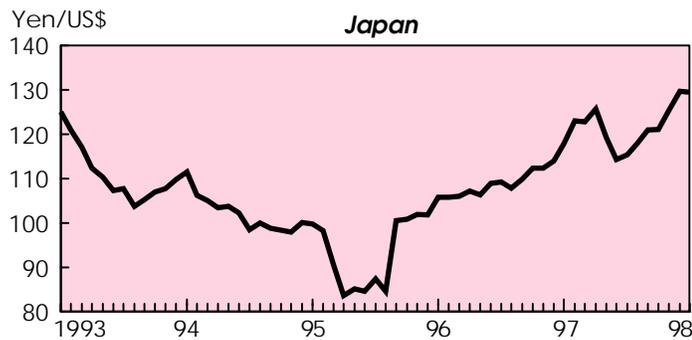
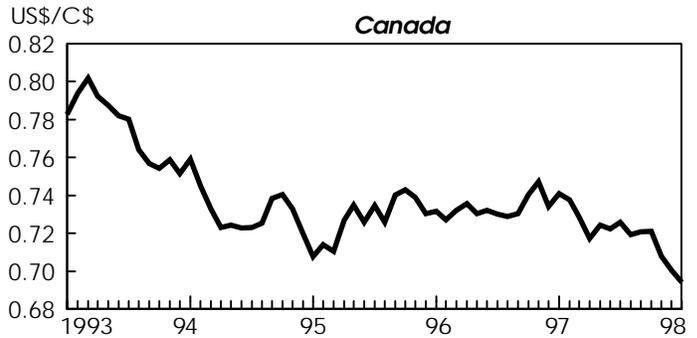
Briefs

As Currencies Lose Value Against U.S. Dollar . . .

Customers Pay More for U.S. Goods . . .



. . . and Competitors Undersell U.S. Exports



U.S. exports of pork are expected to decline in 1998 about 5 percent from 1997 levels, which were up about 8 percent over 1996. The projected 1998 decline in U.S. pork exports to 990 million pounds is based on declining sales to Japan and Korea.

In Korea, demand for imported pork will shrink due to a sharply depreciated currency, lower incomes, and increased domestic pork supplies as herds are liquidated. U.S. exports to Japan are also expected to be off in 1998, due primarily to competitively priced Korean pork products and a stronger U.S. dollar. For Japanese importers, increased Korean pork production and the dramatically depreciated won makes Korean fresh pork loins an attractive buy. However, lower U.S. domestic pork prices, especially for lower value products, will be attractive to Mexico and Russia, which may substitute pork for lower value poultry products.

Among the factors in last year's estimated rise in U.S. pork exports was the early-1997 outbreak of foot-and-mouth disease in Taiwan, which spread chaos in global pork markets. The outbreak devastated the Taiwanese industry and effectively eliminated a major pork exporter from the world market. With the Japanese Safeguard tariff (a WTO legal mechanism to protect domestic producers from excessive imports) slated for removal by midyear, the absence of Taiwan raised expectations for U.S. pork exports. In addition, the outbreak of swine fever in the Netherlands was expected to open up the German market for Denmark, a major competitor of the U.S. in the Japanese market.

However, the surge in U.S. exports to Japan failed to materialize. Taiwanese pork differs from U.S. product, offering several characteristics (darker meat color, tougher texture, and sweeter flavor) preferred by the Japanese consumer. Also, the rescission of the Safeguard mechanism removes the need for Japanese processors to maintain large stocks of pork; the ability to draw on those stocks reduced the need for imports in 1997.

U.S. pork imports are projected at 575 million pounds in 1998, down roughly 9 percent from 1997, which was 2 percent

above 1996. Increased U.S. pork production and lower exports are factors in this year's drop in imports. In addition, the major U.S. suppliers—Canada and Denmark—are expected to focus on other markets. Denmark will likely help fill the shortfall in the European Union caused by outbreak of swine fever there. Canada will likely use its competitive exchange rate advantage over the U.S. to gain market share in Japan.

A lowering of the forecast for 1998 U.S. poultry exports since yearend 1997 is attributable to three events over the last several months. First is the continuing financial crisis in many Asian countries. While some severely affected countries, such as Indonesia and Thailand, are not major markets for U.S. poultry, South Korea is a key market for U.S. turkey, and Japan is one of the largest purchasers of U.S. poultry.

Second, the currencies of Thailand and Brazil have depreciated considerably against the dollar over the last several months, giving their products a price advantage over the U.S. Both Thailand and Brazil are major poultry exporters and compete with the U.S. in many markets.

Third is the outbreak of avian influenza in Hong Kong, a situation that is still being monitored. The potential for spread of a new strain of influenza that can be transmitted from live poultry to humans could have serious impacts on world poultry shipments. Hong Kong is the second-largest market for U.S. broilers and turkeys, and the largest market for other U.S. chicken products.

The forecast for broilers has been lowered since late 1997 by 100 million pounds, and expected exports for turkeys and other chickens have been reduced by 40 million pounds each. Total U.S. broiler exports for 1998 are now expected to be 4.75 billion pounds, only 2 percent above last year's exports.

The reduction from the yearend estimate for broiler exports is based mainly on lower expected shipments to Hong Kong and Japan. In Hong Kong, the continuing avian flu crisis has prompted consumers to curtail purchases of poultry products.

This affects U.S. exports not only to Hong Kong, but also to China through Hong Kong. Hong Kong has temporarily banned imports of live birds from China, which has lowered prices in China and reduced China's need to import U.S. poultry parts. The reduction of shipments to Japan is expected to result from stronger competition from Thailand and Brazil.

While Asian markets are expected to decline or to show little growth in 1998, shipments to other markets are expected to continue growing. Exports to Russia, the Baltic States, and South Africa among others are expected to increase, although at a slower rate than in 1997. Even with higher export quantities, the value of exports may decline as strong competition among broiler exporters and the availability of low-cost U.S. pork products put downward pressure on prices.

Exports of turkey and turkey products are expected to total 610 million pounds in 1998, up 2 percent from 1997, in sharp contrast to the double-digit increases of the past 5 years. The lowered estimate is due mainly to expected smaller shipments to Hong Kong and Korea. Hong Kong is the second-largest market for U.S. turkey exports, and consumers have greatly reduced their consumption of turkey as well as broilers. With the devaluation of Korea's currency, that country is also expected to reduce imports of U.S. turkey products. Reductions in Asian markets are expected to be partially offset by higher shipments to Mexico, the largest U.S. market, as economic growth there fuels demand for poultry products.

Exports of mature chicken are now forecast at 390 million pounds in 1998, up only 2 percent from 1997, compared with a 45-percent increase the year before. While Asian markets are expected to be weak, growth in shipments to Mexico, Canada, and other markets is forecast to offset the decline in Asia.

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## Briefs

**Trade Policy****Mexico Taxes U.S. HFCS**

The recent increase in U.S. high-fructose corn syrup (HFCS) exports to Mexico has raised concerns in the Mexican sugar industry. The price of sugar in Mexico is now sufficiently high that HFCS is an attractive substitute for many sweetener users.

In the U.S., almost all manufacturers who can utilize a liquid sugar (e.g., soft drink bottlers, confectioners) have switched to HFCS. A similar loss of sugar's market share to HFCS could occur in Mexico, particularly if the price of sugar remains relatively high. Mexico's soft drink makers are meeting a part of their growing sweetener needs with HFCS from both the U.S. and domestic producers.

When U.S. exports of HFCS to Mexico jumped from 60,000 tons (commercial weight, not dry basis) in 1995 to 184,000 tons in 1996, the Mexican Government initiated an anti-dumping investigation at the request of its National Sugar Industry Chamber, the association of Mexico's sugar producers. On June 24, 1997, Mexico issued a preliminary ruling and imposed temporary duties on U.S.-based companies exporting HFCS to Mexico. Meanwhile, Mexico investigated major U.S. firms for dumping of HFCS at below production costs in order to secure market share. In September 1997, the Office of the U.S. Trade Representative requested World Trade Organization consultations, which are ongoing.

On January 23, 1998, the Mexican Government announced the final results of the investigation, imposing anti-dumping tariffs for HFCS imports. The duties that went into effect January 24 range between \$63.75 and \$100.60 per metric ton for HFCS-42 and between \$55 and \$175 per metric ton for HFCS-55. The duties are applied to each firm individually. Even with the temporary anti-dumping duties in place since June, U.S. exports of HFCS to Mexico continued

in 1997, with January-November exports totaling almost 180,000 tons, compared with 160,000 tons for the same period in 1996.

Trade reports allude to an agreement exacted by Mexican sugar mills from soft drink bottlers to limit their use of HFCS for the next 3 years, although the Mexican Chamber for the Sugar and Alcohol Industries (CNIAA) recently denied the reports. CNIAA indicates that their discussions with bottlers were only for the purpose of improving sugar production and distribution, as well as to establish clear rules on use of their products.

Two Mexican companies, both affiliated with U.S. companies, have recently built facilities to manufacture HFCS in Mexico and now produce an estimated 250,000 tons a year (compared with about 8 million tons in the U.S.). However, output may fall below this—Mexico is reportedly considering limits on corn imports in order to curb HFCS production.

Although Mexico was a net sugar importer in the early 1990's, Mexico began to export significant amounts in 1994/95. Mexico sugar exports are forecast to reach 750,000 tons (raw value) in 1997/98, compared with imports of 80,000 tons. Factors contributing to the exportable sugar supply include higher production in the wake of government deregulation and privatization in the early 1990's, decreased demand following the peso devaluation, and rising HFCS use in the last few years. In addition, the domestic price of sugarcane—which is controlled in part by government policy—has been raised several times in the last few years.

A sustained exportable sugar surplus could lead to higher U.S. imports from Mexico. NAFTA specifies that until September 30, 2000, Mexican low-duty sugar access to the U.S. is limited to the amount of Mexico's net surplus of sugar,

up to 25,000 metric tons, raw value. (Mexico was given a NAFTA allocation of 25,000 tons for 1996/97 and also for 1997/98.) The total U.S. sugar import quota in 1997/98 is 1.605 million tons. From October 1, 2000, through September 30, 2008, Mexico's access will increase, and after October 1, 2008, the tariff on sugar will drop to zero, ushering in free trade with Mexico in sugar.  
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**March Releases—USDA's Agricultural Statistics Board**

The following reports are issued electronically at 3 p.m. (ET) unless otherwise indicated.

**March**

- 4 *Broiler Hatchery*
- Dairy Products*
- Egg Products*
- Poultry Slaughter*
- 6 *Cheddar Cheese Prices*  
(8:30 a.m.)
- Livestock Slaughter, Annual*
- 11 *Broiler Hatchery*
- 12 *Crop Production* (8:30 a.m.)
- 13 *Cheddar Cheese Prices*  
(8:30 a.m.)
- Cattle on Feed*
- Potato Stocks*
- Turkey Hatchery*
- 16 *Milk Production*
- 17 *Agricultural Land Values*
- 18 *Broiler Hatchery*
- 20 *Cheddar Cheese Prices*  
(8:30 a.m.)
- Cold Storage*
- Livestock Slaughter*
- 23 *Chickens and Eggs*
- 24 *Catfish Processing*
- 25 *Cotton Ginnings*  
(8:30 a.m.)
- Broiler Hatchery*
- Hop Stocks*
- 26 *Wool and Mohair*
- 27 *Cheddar Cheese Prices*  
(8:30 a.m.)
- Hogs and Pigs*
- 30 *Agricultural Prices*
- 31 *Grain Stocks* (8:30 a.m.)
- Prospective Plantings*  
(8:30 a.m.)
- Rice Stocks* (8:30 a.m.)
- Peanut Stocks and Processing*

## Commodity Spotlight



### Good Weather Nets Abundant Citrus Crops in 1997/98

U.S. consumers should find ample supplies of citrus fruits and juices in supermarkets this season. The bountiful supplies are due largely to excellent orange crops in both Florida and California. U.S. orange production is forecast record-high at 14.3 million tons, up 12 percent from last year due to favorable weather in Florida and California. In addition, bearing orange acreage in Florida has been expanding ever since growers replanted trees following several freezes in the 1980's. The average state yield continues to increase as these trees mature.

The large citrus crop will likely keep grower and retail prices for most citrus and citrus products at or below year-earlier levels well into the summer. The bulk of fresh citrus fruits are marketed from late fall through spring in the U.S.

The U.S. is the second-largest producer of oranges and total citrus fruit in the world, accounting for 19 and 17 percent of world production in 1997. Florida's orange production is forecast record-high this year, and should more than double the size of the freeze-damaged Florida crops of the early to mid-1980's. In addition, growers in California (the largest supplier of oranges to the U.S. fresh market) are har-

vesting their largest orange crop since the 1982/83 season.

Florida's early and mid-season varieties such as Hamlins (early), Parson Browns (early), and Pineapple Oranges (mid) were abundant from October through February, as were navel oranges from both California and Florida. Larger (than previous year) supplies of Valencia oranges (a late-season variety) will be available from Florida this spring and from California through late summer.

The record supply of oranges has pushed down grower and retail prices below year-earlier levels. The preliminary January grower price for oranges was \$2.58 per box, 35 percent lower than a year ago. The January retail price for fresh navel oranges was 53 cents per pound, just slightly below a year ago. Both grower and retail prices for fresh-market oranges have risen since last fall, suggesting a strengthening of demand, possibly due to improved quality. However, as summer approaches, retail prices for fresh oranges are likely to again fall below year-earlier levels as large supplies of Valencia oranges hit the market beginning in May or June.

Although weather patterns induced by El Niño have left their mark on much of the country this winter, citrus production in the U.S. has encountered few problems. For the most part, California's citrus crop has escaped damage. And despite record rain-falls in much of Florida, the citrus crops suffered little or no damage, although standing water impaired harvest at times.

#### *Record Juice Output Forecast in 1997/98*

The large orange crop will also mean ample supplies for juice processors in the U.S. this year. Most orange juice processing takes place in Florida, where about 95 percent of the crop is typically processed into juice (in California, 25 percent or less of the crop is processed). During the 1996/97 processing season (December-November), Florida accounted for 95 percent of all orange juice produced in the U.S., with California, Texas, and Arizona accounting for the rest. With this year's forecast of juice yield (i.e., pounds of sugar solids per box of oranges) just slightly less than a year ago, the 12-percent increase in orange production should lead to record orange juice production.

In addition to a record orange crop in the U.S., estimates from Brazil—the world leader in orange (36 percent) and total citrus (25 percent) production in 1997—indicate that the 1997/98 marketing-year orange crop (July-June) will be up 12 percent from a year earlier. Other major producers of oranges are Mexico (5 percent of the world total), Spain (3 percent), and Italy (3 percent).

Brazil is the world leader not only in orange production, but also in production and exports of orange juice (the U.S. is second). While the expanding U.S. juice supplies will likely limit U.S. imports from Brazil, increased production in both countries will likely stiffen competition in export markets. Through the first half of the Sao Paulo (Brazil) orange juice marketing season (July-December), U.S. imports of Brazilian juice were down 31 percent from a year earlier. Total U.S. exports of orange juice during the same time period were also down 8 percent from a year earlier, reflecting increased competition from Brazil in the world market.

## Commodity Spotlight

However, the U.S. export pace is expected to pick up in the coming months as Brazilian supplies decline and U.S. supplies increase seasonally. U.S. orange juice exports are forecast at a record 120,000 metric tons (65 degrees Brix) in 1997/98 (December-November), up 15 percent from 1996/97. Increased demand for high-quality single-strength orange juice and strong marketing efforts by U.S. companies have boosted exports each year since 1993/94.

Much of the competition for export markets occurs in Western Europe, which is typically the major export market for both Brazilian and U.S. orange juice. During the 1996/97 U.S. marketing year (December-November), the U.S. exported 55,000 metric tons to Western Europe, a 34-percent increase from the previous crop year. Western European countries accounted for 52 percent of U.S. orange juice exports during the 1996/97 marketing year, up from 44 percent in the previous year.

Imports of juice to the U.S. are expected to account for about 10 percent of supply, down from a peak of 37 percent in the mid-1980's when U.S. output was down sharply. Despite more-than-adequate domestic production, the U.S. continues to import some juice (primarily from Brazil) for blending purposes, particularly at the beginning of the U.S. season when oranges are less mature and the juice lacks sufficient color or sweetness.

### FCOJ Futures Prices Stage Modest Recovery

Although Brazilian frozen concentrated orange juice (FCOJ) stocks were not excessively large at the beginning of the Brazilian processing season (July 1997), they have increased significantly since then. Stocks are expected to remain fairly high into Brazil's next harvest, which will begin in May or June. Meanwhile, Florida's FCOJ stocks at the beginning of the Florida processing season (December 1997) were estimated to be over one-quarter larger than a year earlier.

Despite large crops and significant stocks of FCOJ available in both countries, near-term futures contract prices for FCOJ on the New York Cotton Exchange rebounded to 97 cents per pound solids (as of

## Despite Large FCOJ Supplies, Retail Prices Firm in 1997

Retail prices for frozen concentrated orange juice (FCOJ) stayed high throughout most of 1997, despite a record 1996/97 orange crop in Florida that produced record orange juice supplies. In 1997, while both Florida grower prices and near-term futures prices sank to very low levels, retail prices did not decline until the end of the year, about 12 months after grower and futures prices declined. Usually, retail prices track these other prices fairly closely, with a lag of only a few months.

As a result of the basically unchanged retail prices, FCOJ consumption did not expand, leaving end-of-year stocks high. Modest demand coupled with high production in 1996/97 resulted in FCOJ stocks reaching their highest level in years. While retail prices have dropped some since last fall, the decline probably is not sufficient to effectively reduce this year's ending stocks, especially in light of another record crop and juice production year expected for 1997/98. As a result, another stock buildup is expected at the end of this season.

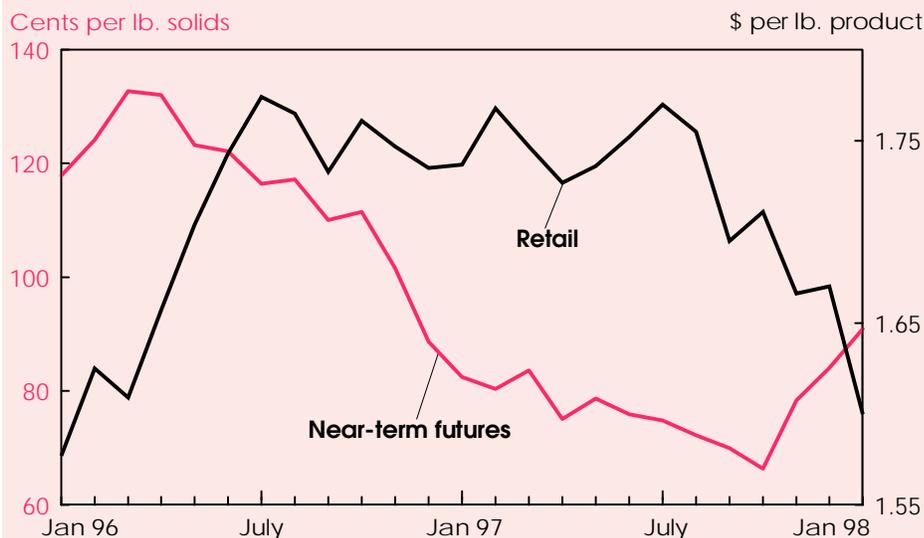
There is no real consensus in the orange juice industry as to why FCOJ retail prices did not decline in response to large supplies. One possibility could be the increased popularity of ready-to-consume orange juice, particularly not-from-concentrate juice. Aided by frequent advertising promotions throughout the year, consumers have been changing their preferences for single-strength over FCOJ. For the convenience of purchasing juice ready to consume, many consumers seem willing to pay a higher price.

In response to the growing popularity of ready-to-consume orange juice and its fairly stable price throughout the year, processors and retailers may have focused more on promoting this kind of orange juice versus FCOJ. Because not-from-concentrate juice tends to be a price leader, the average retail price of FCOJ may not have responded as rapidly to supply changes as in the past.

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### Retail FCOJ Prices Were Slow to Track Futures Prices

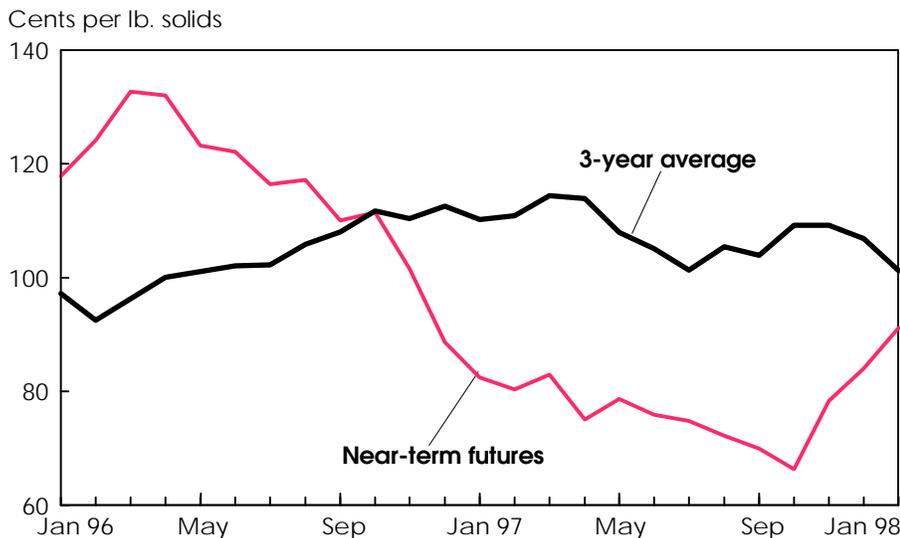


FCOJ = Frozen concentrated orange juice.

Economic Research Service, USDA

Commodity Spotlight

**FCOJ Futures Prices Rebound Close to 3-Year Average**



FCOJ = Frozen concentrated orange juice.  
Economic Research Service, USDA

February 18) since they bottomed out at 67 cents on October 13, 1997 (the lowest near-term contract price for FCOJ since February 9, 1993). After a little more than a year of mostly below-average near-term contract prices, the market has risen to approach average prices since mid-January 1998.

The recent rise in futures prices is due partly to early, unofficial reports that the 1998/99 Brazilian orange crop could be down significantly. Another possible reason is growing confidence in world demand for orange juice and the ability of producers to market their products. Although season-ending stocks have risen for 2 consecutive years in Florida, total domestic consumption is forecast record-high. If orange juice marketers can continue to expand consumption through product differentiation and competitive pricing, FCOJ prices may be able to hold at or rise above recent levels.

**Grapefruit Prices See Downward Pressure**

Much like U.S. orange growers, grapefruit producers find themselves with another large crop this year, although nearly 6 percent smaller than a year ago. Supplies remain abundant and as a result, prices have dropped and grower revenues have shrunk. Growers in Florida, accounting

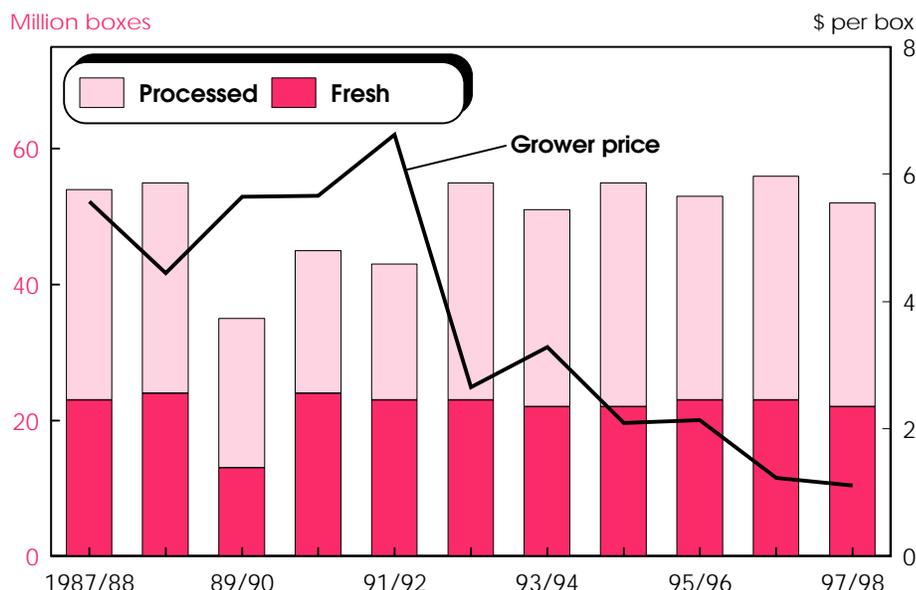
for about 80 percent of U.S. grapefruit production, have been hurt the most by declining revenues. After several years of poor returns to growers (often below production costs) caused by strong supplies and stagnant demand, the Florida grapefruit industry is now pondering supply control options.

Grapefruit bearing acreage and production in Florida peaked in 1996/97 as growers harvested fruit from over 139,000 acres, up 35 percent from the 1989/90 season. However, unlike the orange industry in Florida, the grapefruit industry has realized little growth in demand for fresh product or juice since expansion of acreage by both industries following the freezes in the 1980's. For grapefruit, the gain in bearing acreage has led to a 56-percent increase in production, but not without a huge collapse in prices and returns to growers. During the 1996/97 season, on-tree returns to grapefruit growers were less than 25 percent of the level in 1989/90.

The collapse in prices and returns is also due to stagnant processor demand for grapefruit. Grapefruit juice inventories have remained fairly high, and processors have drastically reduced the prices they offer growers for raw product. Unless there is a dramatic increase in demand for grapefruit, low or negative returns to growers are likely to continue until either grove abandonment or supply management takes place.

In addition to fresh oranges and grapefruit, supplies of lemons, tangerines (such as clementines from Spain), and other

**Florida Grapefruit Prices Down As High Production Continues**



Box = 85 lbs. 1997/98 forecast.  
Economic Research Service, USDA

## Commodity Spotlight

### Supply Control Ahead for Florida Grapefruit?

No formal supply control program will be put in place this season for Florida grapefruit. In the only formal action taken thus far, the Florida Citrus Commission (FCC) voted in November 1997 to amend the Citrus Stabilization Act to allow language that authorizes supply management. This proposal will be given to the Joint Citrus Industry Legislative Committee and, if approved, will be presented to Florida legislators for action this spring. If passed into law, the FCC would then have the authority to pursue a referendum to allow growers to vote on a grapefruit supply control program for future seasons.

If a program is approved, the FCC would most likely use an allotment plan to limit Florida grapefruit production over a 5-year period. The FCC would appoint a panel of member growers from different growing districts to establish a production base for the industry and for individual operations. Grower allotments would then be derived based on utilization numbers from the previous 5 seasons. Growers would harvest no more than their allotment amount, unless they purchased part or all of an allotment from another grower.

Another supply control option being explored could be accomplished through the Citrus Administrative Committee (CAC). The CAC is currently evaluating the process needed to add supply control language to the current Florida grapefruit marketing order. In this situation, volume control would take place at the packinghouse level. Plans at both the grower and packinghouse levels would aim to match supply with demand so that prices return some profit to growers more quickly than if marketings proceeded without regulation.

citrus are also generally abundant. U.S. lemon production for the 1997/98 season is up 9 percent from a year ago, and prices are sharply lower. The preliminary January grower price was nearly 60 percent below a year ago. Quality from both

California and Arizona has been reported as mostly fair to good, but demand has been somewhat lagging—shipments are only about 4 percent ahead of last year's pace. However, the strongest portion of the shipping season begins in March, and

grower prices typically begin to rise into the summer as seasonal demand picks up. With increased production, and early-season movement lagging, somewhat, consumers will find abundant supplies of fresh lemons this spring and summer.

Although U.S. production of tangerines, tangelos, and temples has declined this year, size and quality are mostly average or better. Demand for tangerines has been moderately strong, with grower prices averaging higher than a year ago in December and January.

Imports from Spain of clementines, a fruit slightly smaller than a typical U.S.-grown tangerine, appear to be up this year—the result of a good crop and expanding markets. Clementines are marketed primarily along the East Coast of the U.S., but markets are slowly expanding to the South and Midwest as well. Clementines are generally marketed in the U.S. from October to March, providing early-season competition for U.S.-grown tangerines. Despite this year's smaller U.S. crop, early-season grower prices (October-November) for U.S. tangerines were below last year before rebounding in December.

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*The role of trade in U.S. horticulture*

*The impact of El Niño on crop production*

## World Agriculture & Trade



### World Hog Production: Constrained by Environmental Concerns?

International trade in pork has risen significantly in recent years. Exports of the major pork exporting countries grew at an annual rate of 4 percent during 1989-97 as a result of bilateral and multilateral trade agreements, income growth, and technological innovations in transport and shelf-life extension. There is little doubt that as incomes continue to grow, markets continue to liberalize, and science finds new ways to extend the shelf life of fresh meat over longer periods, international trade in pork will increase further. USDA's baseline projection indicates continuing growth in international pork trade into the next century.

U.S. agriculture, as a major exporter of grain and meats, will need the answers to several important questions about future growth in international pork trade: Which countries are likely to be the leading exporters in the next century? Will the exporting countries that now dominate international pork markets still dominate in 2006? What factors can help identify countries that might become or remain leading pork exporters?

In 1997, four countries—the U.S., Canada, Denmark, and Taiwan—account-

ed for about 60 percent of pork exported by the major pork exporting countries. The U.S., a recent player in the world pork market, accounted for 20 percent, with primary export markets in Japan, Canada, Mexico, and Russia. Canada accounted for 19 percent with important markets in the U.S. and Japan. Denmark, which has a long history as a pork exporter, accounted for 17 percent. Denmark's most important markets outside the European Union (EU) are Japan, South Korea, and the U.S.

Taiwan is a recent entrant to the world pork market, with over 95 percent of its 1996 exports going to Japan. In early 1997, however, Taiwan's hog herd became infected with foot-and-mouth disease (FMD). As a result, Japan and most other pork importing countries banned imports of Taiwanese pork. USDA expects that Taiwan will eventually overcome the effects of FMD and resume exports to Japan, perhaps within 5 years. In the meantime, Japan's demand for pork is being met primarily by the U.S., Denmark, and Canada.

The extent to which these four leading exporting countries will be able to meet

forecast export growth will be determined largely by the ability of their pork industries to produce more hogs. Expansion of a country's hog production capacity is limited by its resource base. Of the three key hog production resources—land, labor, and capital—land is most likely to constrain future growth in pork production in these four countries.

Land is the key resource in pork production because of its multiple functions: land is, of course, necessary to house the animals. Hog feed supplies are frequently drawn from the domestic land base, as in the U.S. and Canada. However, the land requirement for animal housing facilities is relatively minimal, and the absence of a land base adequate to supply feed can be mitigated by importing feed, as is done by both Denmark and Taiwan.

Where land is a nonsubstitutable input into the hog production process is in manure utilization. An adequate land base for spreading manure residues is essential, simply because no other economically viable means of manure utilization currently exists. Indeed, manure utilization accounts for most of the land needs of a hog operation.

Manure is typically stored in a tank or a lagoon facility, which allows the water content to evaporate. The storage facility's manure residuals are later spread, usually over fields where the soil and crops draw fertilizing nutrients (primarily nitrogen and phosphorus) from the manure residues. When manure residue is applied at rates above the nutrient-absorption rates of the soil and crops, the danger of runoff and subsequent groundwater pollution increases.

Until recently, land requirements for manure utilization on expanding hog production facilities were usually met by a combination of two methods: increasing application rates (i.e., applying greater quantities of manure to a fixed quantity of land) and increasing the area of application (i.e., applying manure at the same rate to a greater land area). Expanding hog facilities in the U.S. and Canada—countries with relatively large land endowments when viewed at the national level—typically have leaned toward expanding application area, while facilities in

## World Agriculture & Trade

Denmark and Taiwan—countries with small land endowments—have more typically increased manure application rates.

Recent expansion of large, intensive hog production facilities has made manure utilization a topic of public debate in each of the four leading exporting countries. In view of the relatively high densities of hog inventories and the human population in Denmark and Taiwan, public concerns are perhaps predictable.

Less predictable has been public debate in the U.S. and Canada, where land is apparently plentiful. But in the U.S., for example, there are hundreds of counties where nutrients available from animal manures exceed 100 percent of crop system needs. In these areas, the public debate becomes acute concerning any type of livestock operation expansion.

Thus, despite large bases of sparsely populated land, public demands for stricter governmental regulation of hog industry expansion and manure disposal have risen to a level that may constrain hog production in the U.S. and Canada. Indeed, expansion constraints in all four countries may limit export growth rates to below

those expected in response to projected growth in international pork demand.

### *U.S. Responds to Public Environmental Concerns*

In the U.S., concerns are aimed primarily at large, intensive hog operations and the threats they pose to the environment and to the public's "quality of life." Although small, the risk of water pollution via manure lagoon leakages or spills, and the odor that accompanies large, intensive livestock operations, have induced citizens at local, county, state, and Federal levels to advocate more strict regulation of existing and proposed operations. In some states, as well, environmental concerns and efforts to restrict structural changes in the livestock industry—especially increasing size and concentration of operations—have become politically linked, bringing further pressure to bear on hog industry expansion.

Citizens close to new or expanded intensive hog production facilities have articulated a broad range of proposals for regulation, from heightened scrutiny by local zoning boards to statewide moratoria on new hog production facilities. Because these and similar measures have implica-

tions for the ability of the U.S. hog industry to expand, the level of environmental regulation may become a key determinant of the future scale of the U.S. pork export industry. These new measures may also have a lasting effect on the structure and distribution of the U.S. hog herd.

For example, in late August 1997, North Carolina—the second largest hog producing state in the U.S.—instituted a statewide moratorium on new or expanding hog operations. Effective retroactively from March 1, 1997, through March 1, 1999, the moratorium applies to operations of 250 head or more. Exempt from the moratorium are operations that rely on manure management systems other than lagoons.

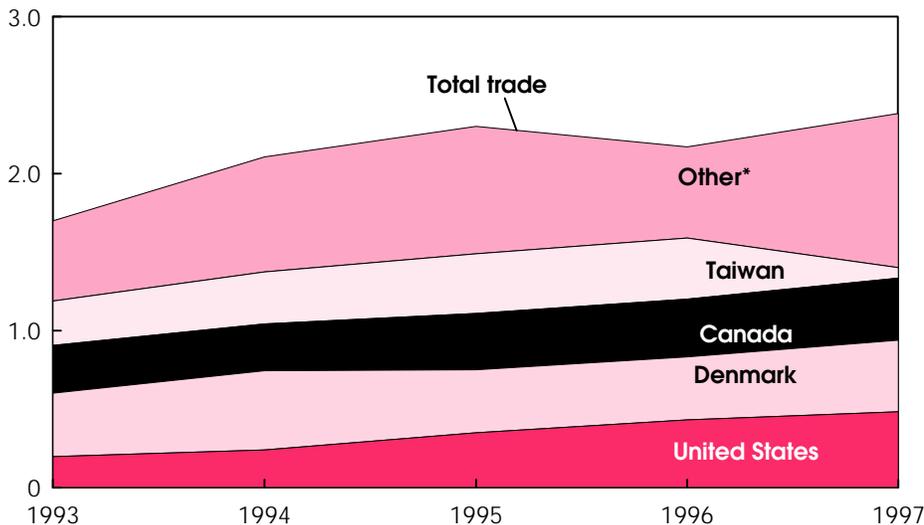
In addition to the moratorium, the law restored the right of county governments to zone hog operations larger than 4,000 head on feed. The law also imposed set-backs (i.e., mandated distances between hog production operations and other structures, such as houses, churches, schools, and hospitals) and restrictions on manure spreading. The law directs the North Carolina Department of Agriculture to plan a phase-out of anaerobic lagoons and spray fields as primary manure utilization methods.

A 90-day moratorium on new or expanding hog operations was imposed by executive order in Kentucky in July 1997 to allow the state sufficient time to formulate and issue emergency regulations to specify set-backs and to limit the size of lagoons. In Minnesota, zoning authorities in three counties have imposed temporary moratoria on hog production, while a fourth county imposed a permanent moratorium on expansion. Moratoria on new and expanded hog operations have also been proposed in Mississippi and Nebraska.

In Iowa, the Humboldt County Board of Supervisors proposed ordinances in 1995 that would require county approval of new or expanding hog facilities, require financial assurance bonds to indemnify potential cleanup costs of abandoned facilities, and regulate manure application. Although the Iowa Supreme Court suspended enforcement of the ordinances in June 1997 pending judicial review, the Humboldt County ordinances appear to have effectively framed the terms of the

### International Pork Trade Grows, As Share Supplied By Four Leading Exporters Falls

Million metric tons



\*Includes China, South Korea, and other Asia; France, Germany, and other EU; Eastern Europe; Brazil; Mexico; and Australia.

Economic Research Service, USDA

expansion debate in Iowa. Broadly, the key question is whether the right to zone land use resides with the state or with counties. Since counties have demonstrated a tendency to regulate agricultural land use more strictly than the state government, operators of large, intensive hog production facilities tend to favor state land-use laws that are uniform across counties.

In South Dakota, the expansion debate revolves around the South Dakota Family Farm Act (a 1974 law that restricts corporate farming) and the use of zoning restrictions to limit expansion efforts that the act currently allows. A 1995 interpretation of the law encouraged large, corporate hog producers to explore production opportunities in South Dakota. In response to a proposal by Tyson Foods to raise 500,000 slaughter hogs per year in Hyde County, voters there passed an ordinance imposing 4-mile set-backs from neighboring properties. Since set-backs of this magnitude make large hog operations nearly impossible, corporate hog producers like Tyson Foods are effectively locked out of Hyde County.

Moreover, a current effort to amend South Dakota's constitution would prohibit corporations and syndicates from owning or maintaining livestock. Cooperatives and family farm corporations in which family members own a majority interest and on which at least one family member lives would be exempt. The amendment would effectively prohibit contract hog production, as practiced by large hog producers such as Murphy Family Farms, Carroll's Family Farms, and Tyson Foods.

Kansas and Nebraska also restrict corporate farming in favor of small family-owned operations. Currently, these laws are being challenged in both states by large hog producers attempting to expand their operations. In Kansas, Murphy Family Farms has applied for an operations permit as a family farm to raise more than 260,000 sows. In Nebraska, a North Dakota corporation is attempting to set up operations to produce 500,000 hogs per year. The corporation maintains that by managing the operations but not owning the hogs, it is exempt from Nebraska's 1982 law banning corporate farming.

Because of its relatively sparse population and its hot, dry climate that facilitates manure utilization, Oklahoma has seen its hog numbers increase almost seven-fold from 1991 to 1997. Public concerns related to potential water and air pollution from intensive livestock production led to the Oklahoma Concentrated Animal Feeding Operations Act, signed into law in June 1997. The law requires licensing for animal confinement operations of more than 5,000 head built after September 1, 1997, requires liquid waste storage facilities, establishes set-backs based on operation size and location within the state, and sets minimum distances between the base of manure lagoons and local water tables. Further, the new law requires financial assurances for waste cleanups, and 3-year environmental histories of all license applicants.

In addition to the debate taking place at the state level, Federal legislation to regulate hog operations is under consideration. The Animal Agriculture Reform Act, introduced in Congress in late October, would require livestock operations raising more than 1,330 hogs, 57,000 chickens, 270 dairy cattle, or 530 slaughter cattle to submit a manure handling plan to USDA for approval.

The legislation would prohibit spreading manure at rates above crop nutrient requirements; for levels beyond those allowable for fertilizer, the plan would identify ways of handling, storing, applying, transporting, and disposing of animal manure. The legislation was conceived in order to set national environmental standards for large livestock producers, thus preventing competition between states that might include reductions in pollution standards as incentives to large operations.

The Administration's recently released Clean Water Action Plan will also focus attention on livestock operations and land application of manures, together with resources and actions to help protect water quality and the environment.

As the struggle for consensus between the U.S. hog production industry and the public continues, the economics of the trade-offs between expansion of low-cost intensive production operations and public demands for environmental quality are

becoming more clearly defined. Increased environmental regulation increases the costs of producing hogs in the U.S., leading to production of fewer hogs than without the new restrictions/regulations. If U.S. consumer demand and the other major exporting countries' production costs remain constant, imposing higher costs on the use of land resources for the U.S. hog industry will increase domestic pork prices and may reduce U.S. competitiveness in international pork markets.

The extent to which a more heavily regulated U.S. hog production industry can retain its international competitiveness will depend in part on how governments in other pork producing countries choose to respond to their own citizens' environmental concerns. As in the U.S., when foreign governments impose land-use restrictions and other regulations on hog confinement operations, the international competitiveness of their pork products may be reduced. Thus, the relative costs of additional environmental regulation in the U.S. and the other major exporting countries will be an important determinant of international competitiveness.

In Canada, large intensive hog operations face challenges similar to those facing U.S. hog producers. In Denmark, hog producers have maintained international competitiveness despite relatively heavy environmental regulation at both the national level and from the EU. In Taiwan, public concerns about the environmental effects of intensive hog operations have been overshadowed by the outbreak of FMD.

### *Hog Producers Face Regulation in Canada ...*

Although the Canadian hog inventory is only about one-fifth of the U.S. herd, producers in Canada are subject to similar market forces that are driving the U.S. hog industry to restructure into fewer, larger, vertically coordinated operations. As in the U.S., public concerns about environmental consequences accompany the Canadian hog industry's new production structure and practices.

Many residents who live near expanding or proposed hog production facilities, particularly in Ontario and Manitoba, have expressed concerns regarding the

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potential for water and air (odor) pollution from large production facilities. Consequently, restrictions similar to those being imposed in the U.S. are appearing in Canada as well.

For example, expansion permits to build new or existing facilities have been contested and/or blocked in Rondeau Bay and East Hawkesbury, Ontario. In Usburne Township, Ontario, a recently enacted regulation requires expanding hog producers to file professionally prepared nutrient management plans; Turnberry Township, Ontario, enacted such a requirement for operations larger than 150 animal units. In June 1997, Councillors for the municipality of Douglas, Manitoba, rejected an application for construction of a new 3,000-sow facility on the basis of public concerns about odor, well pollution, and lower property values.

Provincial governments in Saskatchewan and Alberta also appear to be viewing growth of intensive hog operations with caution. A court in Saskatoon, Saskatchewan, ruled in October 1997 that an environmental assessment was necessary before construction could begin on a planned large hog operation. In Alberta, the provincial government recently announced that a study will be conducted to assess the environmental impact of intensive crop and livestock production.

Canadian hog enterprise budgets published by the Ontario Ministry of Agriculture, Food, and Rural Affairs indicate that Canadian producers already pay more than U.S. producers for manure treatment. Thus, the key to enhancing the international competitiveness of Canadian pork products will hinge in part on whether the increasing returns to scale generated by current structural adjustments are enough to compensate for the increasing costs of environmental regulation.

The Administration's Clean Water Action Plan and related documents are available on the internet at <http://www.nhq.nrcs.usda.gov/cleanwater/>

### ... & in Denmark & Taiwan

Several EU member states have set up environmental regulation programs either to improve water quality or to improve the quality of coastal waters for tourism or fisheries, as in Denmark. Danish legislation effectively limits the expansion of hog production by restricting the level of nitrate pollution from agriculture. Prompted by high water pollution from animal waste in the mid-1980's, Denmark set out in the early 1990's to reduce agricultural nitrogen leaching through several programs directed at manure storage/spreading and at fertilizer management.

Danish livestock farms must possess a manure storage capacity equivalent to production for 6-10 months, depending upon the number of animals held. Hog farmers must limit the amount of nitrogen in manure that will be spread per hectare to 1.7 livestock units. Farms exceeding this density may comply with the standards by spreading their excess manure on neighboring farms. Set-aside land is not counted as part of the livestock base area and therefore cannot be used for manure spreading. No manure may be spread on frozen ground or on nonvegetated soil from after harvest to November 1. Manure must be worked into the soil within 12 hours of spreading.

The Danish Agricultural Act of 1994 has encouraged a shift to less intensive livestock production by stipulating that livestock farmers must own certain percentages of the area needed to meet manure spreading requirements, depending on the number of animal units on the farm. For example, operations with up to 120 units must own at least 25 percent of the land required to spread the manure produced; those with 250 animal units must own at least 60 percent; and those with over 500 units must own 100 percent of the required land. To expand livestock capacity, farmers must own or purchase the required amount of land for additional manure spreading. Previously, producers were permitted to rent land.

Farms larger than 25 acres are required to maintain a fertilizer management plan and balance sheet, and may not exceed the official standards for fertilizer application without risking a fine. To reduce

nitrate leaching from bare soil during the winter months, farmers are encouraged to keep a green cover on 65 percent of cultivated area.

Hog operations in Denmark must also comply with national regulations developed in response to EU directives. In December 1991, the European Community (EC, now the EU) issued the EC Nitrate Directive to prevent and reduce nitrate pollution of waters from agricultural sources within the EC. The Directive set the maximum nitrate concentration allowed in water at 50 mg per liter, in line with the safe level recommended by the World Health Organization and other EC directives concerning drinking water quality.

The EC Nitrate Directive also set standards and procedures with which member states must comply in order to manage nitrate problems. Member states were required by December 1993 to identify vulnerable zones where agricultural pollutants affected the aquatic environment and to establish a Code of Good Agricultural Practice to prevent further unnecessary agricultural nitrogen emission. By December 1995, member states were expected to design an action program based on the Code of Good Agricultural Practice for handling chemical fertilizers and manure in the identified zones. These programs are to be fully implemented by December 1999.

The Nitrate Directive stipulates that the action program must limit the application of animal manure to 153 pounds of nitrogen per acre, including manure from grazing livestock. However, to help member states in regions of intensive livestock production comply with the Directive, the nitrogen limit may be extended to allow up to 189 pounds per acre from 1996 to 1999. Member states may set different levels of nitrogen if justified by criteria such as long growing seasons, crops with high nitrogen uptake, or high net precipitation, provided the objectives of the Nitrate Directive are not violated.

Member states must also set up a monitoring system to evaluate their action program and ensure it adequately fulfills the objectives of the Code of Good Agricultural Practice. Corrective measures must

be taken if the program fails to meet their objectives. The program must be reviewed at least once every 4 years.

Under both national and EU regulations, Danish hog producers have been dealing since the early 1990's with the kinds of restrictions that challenge U.S. producers today. Despite higher production costs caused in part by environmental regulation, high-value Danish pork products remain competitive in many markets outside the EU. Among the factors that compensate for higher production costs and thus contribute to maintenance of international competitiveness are the vertically coordinated production and processing structure of the Danish pork industry and a strong emphasis on marketing.

Taiwan's hog inventory grew by 600 percent from 1960 to 1995, largely a reflection of the development of Taiwanese pork exports to Japan. Prior to the outbreak of foot-and-mouth disease in late March 1997, Taiwan exported 95 percent of its pork production to Japan.

The juxtaposition of Taiwan's population density with a large, intensive livestock industry prompted its government to propose a 6-year plan in 1991 to reduce hog production by one-third. However, high hog prices from an expanding Japanese export market reduced producer incentive to meet government objectives.

At the same time, the Water Pollution Control Act, which became law in Taiwan in May 1991, set standards for hog waste treatment. Restrictions on hog waste treatment were tightened in 1993, but implementation was not complete at the time of the FMD outbreak.

Reports from Taiwan indicate that before resuming production, operators will be required to meet standards for hygiene, land use, and environmental protection, suggesting that smaller, less capitalized operators may be forced out of business. Indeed, the Government of Taiwan announced a new 6-year production program in April 1997 that will encourage 80 percent of hog producers with fewer than 2,000 head of hogs to exit the industry. The

official announcement cited Taiwan's imminent accession to the World Trade Organization (WTO) as justification for the structural change. WTO membership will likely be accompanied by expanded access to Taiwan's pork markets, necessitating the development of a competitive domestic pork industry to compete with imports.

Increased regulation of hog production in Taiwan and the prospects of pork market liberalization will likely form an effective ceiling on hog production, and the FMD outbreak makes such an outcome even more likely, for three reasons. First, after the easing of environmental effects from intensive hog production brought about by the FMD-related reduction in hog numbers, Taiwanese citizens are likely to exert considerable pressure on an increasingly responsive government for enforcement of existing environmental regulation.

Second, many smaller production operations will likely not survive the FMD outbreak because of the high costs of restarting hog production and of compliance with more strongly enforced environmental restrictions. Third, the FMD outbreak provided an incentive for many large Taiwanese hog producing interests to relocate some of their production facilities outside Taiwan. Now, rather than depending solely on facilities in Taiwan, export income is being generated by Taiwanese-owned hog production operations in other countries such as Canada. Together, these factors point to a permanently smaller hog herd in Taiwan.

### ***New Exporters May Enter International Pork Markets***

Increased public regulation of the risks of environmental pollution implies two non-exclusive sets of conclusions: one for pork exporting countries with small land endowments (Denmark and Taiwan), and another for countries with relatively large land endowments (the U.S. and Canada). For countries with small land endowments, increased environmental regulation implies a ceiling on inventory numbers, such as the stringent regulation of manure spreading in Denmark. In Taiwan, the costs of compliance with environmental restrictions, together with trade competi-

tion and disease factors, will likely hold the Taiwanese herd below its pre-FMD level of 12 million head.

Limitations on inventories, however, do not necessarily imply a limitation on the potential profitability of the hog export sectors, as Denmark has shown. Future profitability for the pork industries in exporting countries with small land endowments will probably result more from technological innovations and cost reductions than from expansion. This suggests that while Danish and Taiwanese shares of the expanding world market may decline, industry profitability may actually increase.

With virtually insurmountable land constraints in the small, densely populated countries of Taiwan and Denmark, the U.S. and Canada, with relatively large land endowments and much less dense populations, had seemed most likely of the major exporting countries to expand production and meet expected increases in world demand for pork. For the U.S. and Canada, increased regulation of environmental risks implies fewer hogs produced at higher per-head costs, leading to higher domestic prices for pork.

With environmental constraints on land use in all four leading pork exporting nations, world pork prices could increase more sharply than otherwise as demand increases over time. A higher cost structure brought about by environmental regulation, coupled with higher world pork prices, may stimulate development of hog industries in countries that currently import pork, as well as in countries with relatively low-cost resources. Nations with large land endowments, good feed supplies, and low levels of regulation may develop pork export capacities. Mexico, Brazil, Argentina, and Uruguay could be strong candidates as major pork exporters if their disease control efforts are successful.

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## Food & Marketing



Dairyfield Magazine

# Federal Milk Marketing Orders: Consolidation & Reform

The 1996 Farm Act included two significant changes under the Dairy title as part of the effort to reduce government intervention and regulation of agriculture and to move agriculture toward a greater market orientation. The first of these was the phasing out of the dairy price support program, which for years established the minimum price for milk; the second was the requirement that the U.S. Department of Agriculture (USDA) consolidate and reform the Federal Milk Marketing Order (FMMO) system.

The law mandated that USDA reduce the number of milk marketing orders from 31 to no less than 10 and no more than 14 by April 4, 1999. USDA announced publication of the proposed rule on January 23, 1998, to solicit public comment on proposals for consolidation of the order system, changes to classified pricing, replacement of the Basic Formula Price, and changes in order provisions, terminology, and classification of milk by end-use.

The FMMO system was set up in the 1930's when milk producers had no alternatives to selling their milk to local handlers and were often captive to unfair buying practices by milk dealers or handlers. FMMO's were designed to level the playing field by returning some market power

to producers. A milk marketing order—which covers only Grade A milk (about 95 percent of milk production)—is a geographically defined fluid milk demand area. Within each region, handlers' milk sold in the milk marketing order is "pooled" to generate a uniform average price, called the blend price.

FMMO's set monthly minimum prices (classified pricing) for different uses of milk. Class I milk is milk for fluid consumption; Class II milk is used to produce soft products such as ice cream, cottage cheese, and yogurt; and Class III milk is used to manufacture hard products such as butter, nonfat dry milk, and cheese. In recent years, many marketing orders have also defined a Class III-A category for milk used to make nonfat dry milk.

The minimum prices for Class I and II milk are determined by adding fixed differentials to the Basic Formula Price (BFP), which is based on the old M-W (Minnesota-Wisconsin) price, updated by a product price formula. The BFP also currently serves as the Class III price. The current Class II price is constant over all marketing orders at 30 cents above the Class III (BFP) price. The Class I differential varies for each milk marketing order; generally, the Class I differentials

increase from northern to southern markets, ranging from a low of \$1.20 in the Upper Midwest to a high of \$4.18 in Miami, Florida.

Data are collected within each marketing order on the quantities of milk used in each class of milk in the order. A blend price, or average, is calculated based on the class prices and the quantities used in each class. The blend price becomes the minimum that handlers must pay producers or producers' cooperatives. Since all handlers must purchase at the minimum class prices, handlers who produce cheese, butter, and nonfat dry milk ultimately receive payments back from the marketing order pool to compensate for the difference between the blend price and the lower Class III and III-A prices. In contrast, Class I and II handlers must pay into the pool the difference between the blend price and their higher class prices.

### *How Does Order Reform Affect the Present System?*

In the 1996 Farm Act, USDA was directed to consolidate the milk marketing orders, which will generally enlarge the area and expand the number of producers and handlers covered by a typical order. USDA's proposed rule would consolidate the present 31 orders into 11.

No orders would remain geographically unaffected, although some orders would see only minor changes. The Arizona order, for example, has only a minor change—the addition of the Las Vegas area. Nine orders in the proposed rule combine at least two orders from the former system, with some combining as many as five. The new order also would include some previously unregulated areas. All

Detailed information on economic impacts of FMMO reform, as well as the text of the proposed rule and other supporting material, are available on the internet at <http://www.ams.usda.gov/dairy/reform>. Or contact USDA-AMS Dairy Programs, P.O. Box 96456, Washington, DC 20090-6456

producers will be able to vote on the final orders after the final rule is published.

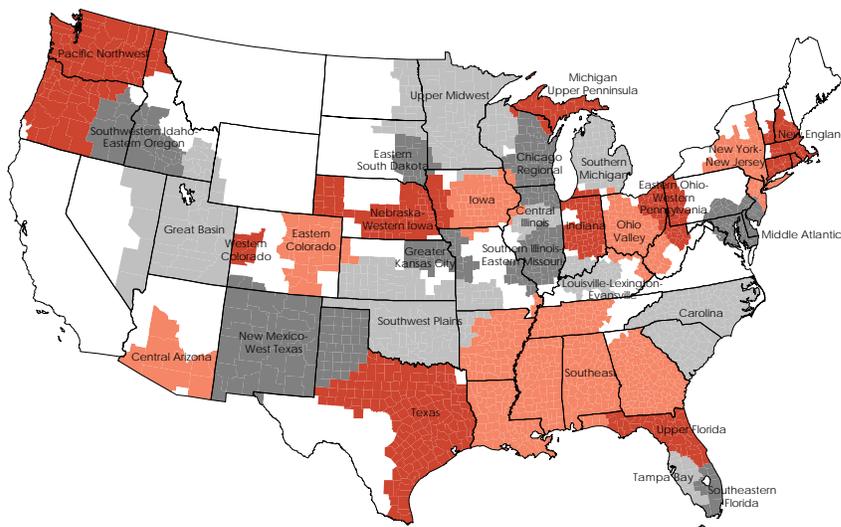
The 1996 Farm Act also granted California dairy producers—who have a separate state milk marketing order—the right to vote to join the FMMO system as a separate order. USDA’s proposed rule does not include California, since a petition from the state’s producers to be included in the FMMO system was not received in time to be evaluated before issuance of the proposed rule in January.

In conjunction with the consolidation, USDA was authorized to consider several other changes to FMMO’s, including multiple basing points. In the current order program, the price surface has traditionally recognized the Upper Midwest as the dominant surplus milk production area or basing point. In the proposed rule, USDA now recognizes multiple locations as surplus production areas, and the price surfaces under the proposed pricing options reflect these multiple basing points.

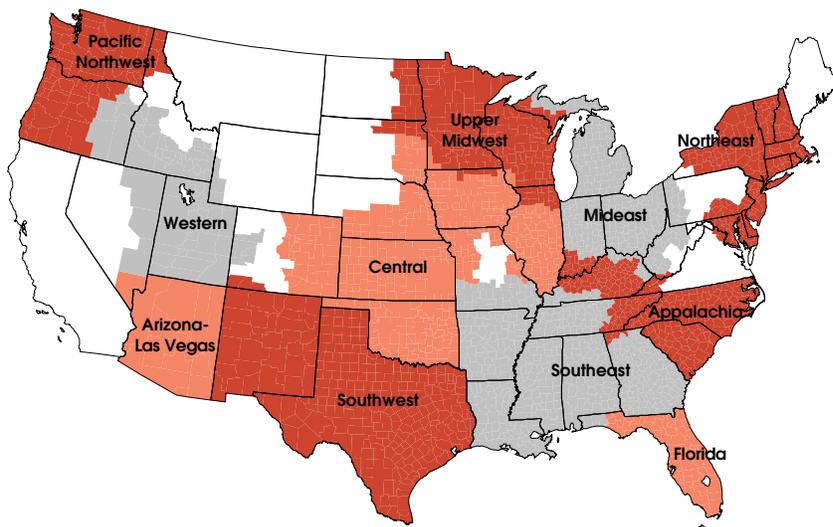
In the proposed rule, seven different price surface options are presented, two in significant detail. Option 1A is based in part on results generated by a model created at Cornell University, adjusted for more recent economic conditions. USDA expresses a preference for one option, called Option 1B in the proposed rule, which is a more market-oriented price surface also generated by the Cornell model. Option 1B would be phased in over a 5-year period, with the new Class I differentials in each marketing order phased in by 20 percent each year until the new differentials are reached. Two other phase-in methods for Option 1B would provide compensation to producers by adding a fixed amount to the Option 1B differentials over the 5-year phase-in period.

Other options analyzed in the proposed rule include a proposal by Mid-American Dairyman, Inc., which leaves the differentials unchanged from the current system but would floor the BFP at \$13.63—the record level established in 1996. An option proposed by the International Dairy Foods Association (IDFA) would change the price surface for Class I milk and have only two class prices—fluid milk and other milk.

### Current Federal Milk Marketing Order System Uses 31 Marketing Areas



### Proposed Consolidation Would Create 11 Marketing Areas



Blank areas are not covered by Federal Milk Marketing Order System

Source: NY-NJ Milk Marketing Area, Agricultural Marketing Service, USDA.

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### Classified Pricing Changes Under Federal Milk Marketing Order Reform

Current System	Proposed
<i>Class I price</i> = Class III or Basic Formula Price (national price) + Class I differential (order specific)	<i>Class I price</i> = higher of Class III price (national price) or Class IV price (national price) + Class I differential (order specific)
<i>Class II price</i> = Basic Formula Price + \$.30/cwt (national)	<i>Class II price</i> = Class IV price (national price) + \$.70/cwt (national)
<i>Class III or Basic Formula Price</i> (national) Minnesota-Wisconsin Grade B price updated by a product price formula	<i>Class III price</i> (national) Formula based on butter, cheese, and whey prices
<i>Class III-A</i> (national) Formula based on nonfat dry milk prices and the butterfat differential	<i>Class IV price</i> (national) Formula based on butter and nonfat dry milk prices

The 1996 Farm Act also authorized USDA to consider multiple component pricing for developing prices for milk used in manufacturing products. Under USDA's proposed rule, component prices (protein, butterfat, and other nonfat solids) would be used to determine the values of milk used in Class III (milk used in cheese) and a new Class IV (milk used in butter and nonfat dry milk). USDA would use information on market prices for cheese, butter, nonfat dry milk, and whey to determine the values of milk components and determine minimum prices using formulas that incorporate these component values. In recent months, the proposed Class III price has been running above the current BFP and the proposed Class IV price above the Class III-A price. The new Class II price would be set at 70 cents above the Class IV price versus 30 cents above the Class III price currently. Recent experience also suggests the Class I price would increase.

#### *What Will Be the Economic Effect?*

Consolidation has two basic impacts on the blend prices received by producers. First, utilization rates (the relative use of each class of milk) change when orders are combined—some old orders will bring lower Class I utilization to new orders, lowering the basic blend price, and vice versa. The second, and less obvious, change relates to the “zoning” of blend prices under an order. Zoning is the practice of setting the blend prices differently at rural and urban processing plants within a marketing order to encourage the movement of milk to urban areas to satisfy the demand for fluid milk. In effect, the blend price at a rural processing plant is set to reflect the cost of moving milk to urban areas and plants, compensating producers for supplying milk to where it is needed.

An analysis of changes in three hypothetical orders provides an example of how the

consolidation and zoning may affect the producer blend price. Under the current system, the differences between the Class I prices in these hypothetical marketing orders are around 10 cents—Order A is about 10 cents higher than Order B, and Order C is about 10 cents lower than Order B. Because the Class I utilization in each of these orders is about 50 percent, the effective differences between the blend prices at the base points in each separate marketing order under the current system would be about 5 cents between A and B and between B and C. When the orders are combined, B's base point becomes the base point for the new order. Thus, the new zoned blend price for A is 10 cents higher than the B price, and the blend price for C is 10 cents lower than the B price, a change of 5 cents for each.

Changes in the Class I price surface will affect producer revenues and consumer costs, although the final effect will be determined by how much milk is used in Class I products (Class I utilization). In economic terms, the effect of classified pricing can also be called price discrimination. Under price discrimination, higher prices can be charged for the same raw product in the market with a more inelastic demand (i.e., where a 1-percent change in the price of that product will result in a less-than-1-percent change in the quantity of that product demanded).

To increase revenue in a market with inelastic demand, a seller can either raise prices or reduce supply. Since the demand for fluid milk is more inelastic than the demand for milk for manufacturing, under a higher Class I price surface, revenue in the fluid market will increase, despite lower quantity consumed. The reduction in the quantity demanded in the fluid market due to higher prices will create a larger supply in the manufacturing market, which could reduce the revenue to producers in this market.

### Milk Pricing Options Under the Federal Milk Marketing Order Reform

Option	Phase-in period	Base price at Minneapolis, MN	Price surface	Number of classes
1-A	No	\$1.60	Based on Cornell model analysis as changed by AMS price surface committee	Class I (fluid), Class II (soft products), Class III (cheese), and Class IV (butter and dry milk)
1-B*	5 years	\$1.20	Based on Cornell model analysis without changes made by AMS  Price surface is flatter than 1-A	Class I (fluid), Class II (soft products), Class III (cheese), and Class IV (butter and dry milk)
5	No	\$1.20	No change in price surface from present levels	Class I (fluid), Class II (soft products), Class III (cheese), and Class IV (butter and dry milk)  Class III price for Class I pricing would be floored at \$13.63
6	5 years	\$0.99	Price surface proposed by International Dairy Foods Association	Class I (fluid) and Class II (all other milk)

\*Option 1-B has two sub-options, one of which would compensate producers for lost income over the phase-in period. The other would provide additional compensation.

The revenue increase in the fluid market would be greater than the revenue loss in the manufacturing sector. As a result, consumers would pay more on average for dairy products, and producer incomes would increase. Regionally, producers in areas with high Class I utilization will gain more from higher Class I differentials. Producers in areas with low Class I differentials will gain less. Since Option 1B eventually results in lower Class I prices overall, Option 1B may return less income to dairy farmers and lead to lower consumer expenditures for dairy products compared with Option 1A.

The proposed Class III and Class IV prices will also affect producers and processors. At the present time, it appears that the proposed Class III and Class IV prices would be higher than their predecessors. Thus, the new order system could raise the cost of milk going into the products using these classes of milk. A second impact of higher Class III and Class IV prices will be higher Class I and Class II prices than would have occurred under the current price formulas.

USDA will be accepting comments on its proposed rule through April 30. These comments will be reviewed and a final rule will be announced, followed by informational meetings and a producer referendum early next year.

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## Special Article

## Argentina's Economic Reforms Expand Growth Potential for Agriculture

Argentina, one of the world's leading agricultural exporters, may be poised to realize the full agricultural production potential afforded by its temperate climate and some of the world's richest farmland. A combination of dramatic market-oriented reforms and strong price incentives in the 1990's have led to key changes in the way the country produces and markets agricultural commodities.

Prior to the reforms, successive ineffectual or flawed government programs had resulted in extended periods of economic instability marked by chronic public sector deficits, endemic and highly variable inflation, and low savings and investment. When the current administration took office in July 1989, the economy was in crisis and the government insolvent. Inflation during July 1989 alone was 200 percent, and the economy was experiencing unprecedented stagnation. Decades of neglect had left Argentina with a deficient infrastructure, a poor communications network, falling labor productivity, and growing poverty.

The Law of Convertibility, which went into effect in April 1991 and guaranteed a one-to-one conversion of pesos into dollars, began reining in both inflation and the fiscal deficit. In addition to halting the government's inflationary financing, the administration implemented a far-reaching economic restructuring program that included wholesale privatization of government-owned industries and utilities, deregulation of the economy, restructuring of government institutions, and reforms in the country's legal framework. The new policies have set the country on a path of fiscal and monetary prudence that has lowered inflation and spurred private investment.

In the agricultural sector, the reforms eliminated the institutions and policies of the past five decades that had shifted resources from agriculture to other sectors of the economy. Elimination of the National Grain and Meat Boards, once important vehicles for government intervention in the marketing system, was largely symbolic, as many of their functions had already been transferred to the private sector. But combined with the government's initiatives to divest itself of Board-owned inland and port facilities, it represented another solid reform.

Agriculture benefited from other privatization initiatives, including the granting of road and railroad concessions to the private sector, privatization of communications and power sectors and ports, and partial sale of the state oil company, as these actions increased the efficiency of these sectors and thus reduced farmers' costs. The main trade policy instruments for transferring wealth from agriculture to other industries—export taxes on agricultural commodities and tariffs on imported inputs—were gradually reduced or rescinded. The Law of Convertibility eliminated the ability to tax agricultural exports indirectly through manipulation of the exchange rate. This, coupled with the trade



Secretary of Agriculture, Argentina

policy reforms, removed the distortions between domestic and international prices.

As a result of the reforms, Argentina's gross domestic product (GDP) grew 6 percent per year on average from 1991 to 1997, increasing each year except 1995. However, the agricultural sector continued to stagnate for several years. As with other export-oriented sectors, agriculture had been handicapped by a fixed and increasingly overvalued real exchange rate. The appreciation of the peso squeezed the profits of Argentina's commodity producers, whose income was derived from dollar-denominated international commodity prices, while their costs for domestic goods and services were denominated in pesos. Domestic taxes had increased, real interest rates remained high, and access to credit was insufficient. This created tremendous pressure on the farm sector to become more efficient, while encouraging major farm groups to seek assistance from the government.

In response to farmers' financial stress, the government announced additional policy measures in August 1993. The Fiscal Pact, as these measures were collectively called, was designed to reduce both federal and local taxes that were constraining the ability of Argentina's agricultural sector to compete

Weights of commodities presented in this article are in metric tons.

1 hectare = 2.47 acres

in world markets. Most important, the government agreed to eliminate the asset tax on land. Other federal and local taxes were scheduled for elimination or reduction over 1993-95. It should be noted, however, that no substantive government policies, programs or subsidies were enacted to encourage production of grains, oilseeds, or livestock in Argentina, nor do any exist currently. At the same time as Fiscal Pact measures were being implemented, the private sector was becoming more efficient and developing new and innovative marketing and financial tools for producers.

### *Argentina's Crop Producers Cash in on Reforms*

During the 1996/97 marketing year, the vast array of changes in the Argentine economy and the agricultural sector allowed crop producers to respond aggressively to the strong international commodity prices of the previous season. Farmers dramatically increased their plantings and their use of productive inputs in 1996/97. Aided by near-perfect weather, they harvested record wheat, corn, and rice crops. Land harvested to grains and oilseeds in 1996/97 totaled about 22 million hectares, 3 million above the previous year's record high. An estimated 2-million-plus hectares of good pasture land, previously devoted almost exclusively to cattle, was planted to crops.

Before the 1995/96 season, many analysts had assumed that the 1983/84 record of 18.7 million hectares represented an upper bound on the amount of land available for grains and oilseeds, which could rise only with significant investment. While some investment did take place, the sector has shown that it is much more capable of responding to high prices than previously thought.

In addition to record area harvested, 1996/97 saw record yields for corn and rice and near-records for wheat and sorghum. Total grain production (35.6 million tons) and exports (23.4 million tons) reached record levels. In previous years, these gains would have come at the expense of oilseeds, but the area harvested to oilseeds was the second highest ever. And while soybean yields were the lowest in 8 years, production of all grains and oilseeds together totaled almost 53 million tons, exceeding the 50-million mark for the first time and eclipsing the previous production record by almost 8 million tons.

For 1997/98, preliminary indications are that Argentina is poised to enjoy a second record breaking harvest in as many years. Even though planted area for all commodities dropped about 3 percent over the previous year, expected yields have more than compensated due to extremely favorable weather conditions. Total grain production is estimated at 36 million tons and total oilseed production at 23 million, both records. Wheat production is estimated at 13.9 million tons, 2 million less than the previous year, but record production of corn (16.5 million tons) and soybeans (16 million tons) is expected.

Last year, the government announced a goal for grain and oilseed production of 60 million tons by 2000. Even though the extremely favorable weather of this year, which is estimated to

## Argentine Agriculture

Climatic and topographical variations divide Argentina into six distinct agricultural regions, only one of which—the Pampa—is conducive to widespread cultivation of grains and oilseeds. The Argentine Pampa region is located in the east-central part of the country and occupies an area slightly more than 50 million hectares, or about 18 percent of the country's total land area. The region can be divided into three zones according to predominant use: cropping, mixed crop/livestock, and livestock.

The typical producer in the Pampa tends to operate a joint grain-oilseed-livestock enterprise, with each activity competing for land. Cattle operations in Argentina can be classified into three major systems: cow-calf (breeding), cow-calf/feeding, and feeding/finishing. Larger operations often own separate cow-calf and fattening operations. More than 97 percent of total beef output is produced from cattle that are grazed on pasture, either native or improved (planted to grasses or small grains).

Grain and oilseed production is both competitor and complement to cattle raising in Argentina. Crop competition with cattle tends to be limited to steers and feeder heifers, as cow-calf production in Argentina is located mainly in areas not suited to crop production. In making year-to-year decisions about the mix of crops and pastures, the producer is often influenced as much by current weather conditions, ages and numbers of cattle on hand, and rotational considerations as by current prices. At the same time, crop production and cattle raising are considered highly complementary, given the practice of rotating crops with sown pastures to maintain soil fertility.

have produced 59 million tons of grains and oilseeds, should not be mistaken for the norm, it seems likely that the 60-million mark could be surpassed before 2000. While the potential for drawing additional land into grain and oilseed production in the future is debatable, the potential for increasing yields remains bright.

Future yields should increase with growth in use of inputs such as fertilizers and specialized farm equipment. While many production practices common in the U.S., including a high level of mechanization, have been used in Argentina's principal grain and oilseed producing region, the Pampa, the use of fertilizers and chemicals had traditionally been extremely low in Argentina. In addition to its high cost, other factors holding down use of fertilizer included the richness of the soil and its high content of organic matter; the rotation of crops with sown pastures; and development of crop varieties not particularly responsive to fertilizer.

Argentina has always relied on imports for most of its fertilizer needs, and the costs of imported inputs began to drop after passage of the Law of Convertibility and the reductions in import tariffs. By 1995, fertilizer use had reached a record 1.2 million

## Special Article

### Argentina Is Among the Top Five Exporters Of Major Commodities

Commodity exports	Argentina's world rank
Wheat	5
Coarse grains	2
Soybeans	3
Soymeal	2
Soyoil	1
Sunflowerseed	3
Sunflower meal	1
Sunflower oil	1
Beef	5

Based on estimated exports of crops and products in 1996/97, and estimated exports of beef for calendar 1997.

Economic Research Service, USDA

tons, compared with less than 100,000 tons 10 years earlier. In 1996, fertilizer consumption increased again, vaulting to 1.6 million tons, five times the 1991 level. Sales of agrochemicals (primarily herbicides) also increased sharply, nearly tripling between 1991 and 1996.

The growth in use of these inputs was accompanied by an increase in planting of improved seed varieties. Use of chemicals and improved seeds are expected to continue rising as costs decrease and more farmers realize the potential gains. During the 1996/97 season, fertilizer was applied on an estimated 65 percent of wheat and 50 percent of corn area, up from an estimated 50 and 25 percent, respectively. While over 90 percent of the fertilizer used is currently imported, fertilizer companies are making investments to manufacture it locally. With urea consumption in Argentina expected to increase to 1.2-1.5 million tons by 2000, the country will probably still have to import large quantities of fertilizer.

With increasing confidence in the agricultural sector, farmers stepped up purchases of machinery such as tractors, harvesters, and irrigation equipment. In 1995 alone, irrigation equipment sales, benefiting also from lowered import costs, were double the total for all previous years.

Changes in farm management practices will also push up yields. No-till cropping, for example, which is becoming more common, particularly for soybeans, has led to more intensive land use as soybeans are double-cropped with wheat.

With greater reliance on the market, Argentine farmers have been forced onto a steep learning curve in managing resources to increase output, and in marketing the output. Farmers are making more extensive use of marketing tools, such as futures and options, to lock in favorable prices.

During calendar-year 1997, an estimated 20 million tons of commodities was traded on the futures market, up nearly 400 percent over 1992. The government has been championing the use of futures and options to promote more orderly marketing of grain and to minimize the effects of price swings on farmers. The upward trend in use of these instruments is expected to continue with the recent elimination of the 27-percent profit tax on for-

eign commodity trading firms doing business in Argentina's Boards of Trade. Brazilian trading firms, in particular, are expected to increase their presence in the Argentine futures market, as Argentine commodities comprise a large share of Brazilian imports. Some traders estimate an increase of about 5 million tons in total exchange volume as a result of the new regulations, providing needed additional liquidity to the market.

Argentina's farmers have also benefited from privatization of much of the transportation and handling infrastructure that has generated major improvements in rail service and port facilities and an increase in export capacity. Privatized railways carried over 17 million tons of freight in 1996, 12 percent more than in 1995 and 29 percent above 1994. About 21 percent of the country's grains and oilseeds are transported by rail, and grain accounts for 46 percent of all rail freight. Greater competition and efficiency gains have reportedly lowered freight costs by 20-25 percent in the grain producing region.

Major expansion and upgrades in port facilities have occurred near Rosario, along the Parana River. Exports from the Parana ports, mainly grains and oilseeds and their products, have increased from about 16 million tons in 1992 to nearly 21 million tons in 1996. This growth is expected to continue, as many firms are expanding their loading and processing capacity for grains and oilseeds. A major project is also underway to develop the waterway further north into Paraguay and Brazil so that products, mainly soybeans, can be brought in large quantities by barge for processing and export through Argentina.

### *Livestock Sector Fails To Match Crop Gains*

Argentina has been associated with beef production and exports since at least the turn of the century. It is currently the world's sixth-largest beef producer and fifth-largest exporter. Since the late 1970's, however, Argentina's beef production and exports have decreased, particularly as a share of world output and exports. The country's economic problems throughout the 1980's reduced incentives for long-term investments such as cattle production. Beef, a staple in Argentina, suffered from government efforts such as price controls and government-imposed "beefless days," aimed at reducing inflation for the urban population. Productivity, particularly in the cow-calf sector, is low, a result of reproductive diseases (such as brucellosis) and, until recently, foot-and-mouth disease (FMD).

Argentina's livestock sector has been less of a beneficiary of the reforms of the 1990's than the grain and oilseed sectors. By the end of 1997, the Argentine cattle inventory stood at 50.3 million head, the lowest in 27 years. The herd had decreased by more than 5 million in less than 5 years. The period included 2 years of drought and several years of strong competition from the more profitable grains and oilseeds, prompting farmers to increase slaughter in order to devote more land to crops. Real cattle prices had been dropping since 1992, while production costs and taxes remained high.

Structural deficiencies continue to prevail in the livestock sector. It has been one of the last sectors in agriculture to receive fresh capital, for a number of reasons. Real interest rates remain high, reducing the attractiveness of long-term investment in cattle and beef production. Tax evasion through black market sales has proved to be a particularly tough and pervasive problem in the livestock sector. The government is trying hard to control the tax evasion in an effort to encourage more local and foreign investment. Until recently, foreign direct investment, while estimated to have grown significantly in the overall food sector in the early 1990's, had been notoriously absent in the beef processing sector.

At present, the main factor constraining production is the inefficiency of the cow-calf sector. Although existing technology would allow for at least a doubling of average productivity in most areas, technology adoption by farmers has been very low, hampered by owner absenteeism, low educational level of the average cow-calf operator, and inefficient farm size. In addition, past periods of economic instability were not conducive to long-term investments such as cattle. Recent developments, however, suggest that this may be changing. Advanced producers, for example, have adopted a very successful practice called "early weaning," whereby calves are weaned (with supplementation) when they are between 2-3 months old, allowing the cows, and especially the heifers, to improve their body condition sooner, thereby dramatically improving pregnancy rates.

The most significant recent development in the Argentine livestock sector was the U.S. announcement in August 1997 that it would begin importing fresh boneless beef from Argentina under a 20,000-ton quota, after more than 60 years of prohibition. The presence of FMD had effectively banned Argentine beef from the world market for FMD-free fresh and frozen beef. In 1990, the Argentine National Animal Health Service initiated a comprehensive FMD vaccination program. At the time of the U.S. announcement, there had been no outbreak of the disease in over 3 years.

New markets should now open for Argentine beef in Asia as well. This will help the cattle industry to stabilize and possibly begin expanding production, although the current financial and economic crisis currently plaguing Indonesia, Thailand, Malaysia, the Philippines, and South Korea will have a short-term negative impact on their imports of agricultural commodities, especially high-value products such as red meats.

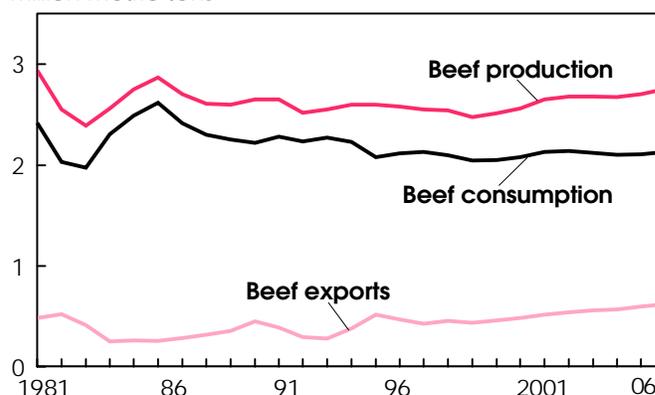
### ***Growth Picture for The Next 10 Years***

Can Argentine agriculture sustain the growth of the last few years? USDA's 1998 baseline includes projections of Argentine production, consumption, and trade for major agricultural commodities over 1998-2007.

**Grains.** The area under grain cultivation is expected to grow modestly throughout the projection period, from a base of 10.7 million hectares in 1997/98 to 11.4 million by 2007/08—still slightly lower than the 11.7 million hectares harvested in 1996/97. This is explained by wheat area, which jumped to 7.1

### **Modest Turnaround Projected for Argentina's Cattle Sector Over the Next Decade**

Million metric tons



1997 preliminary; 1998 forecast; 1999-2007 projected.  
Economic Research Service, USDA

million hectares in 1996/97 from 4.5 million the previous year in response to a sharp price spike.

*Wheat* area is projected to grow from 5.7 million hectares in 1997/98 to only about 6.3 million by 2007/2008. Average yields, however, are anticipated to grow at about 2 percent per year, so production is expected to reach a record 16.3 million tons and exports a record 11.4 million tons by 2007/2008. This should enable Argentina to maintain its place as fifth-largest wheat exporter in the world, increasing its market share from an estimated 7.8 percent in 1998/99 to 9 percent in 2007/08.

*Rice* is a relatively small crop in Argentina, but production has been on an upward trend for several years and is expected to continue. Rice area is projected to increase by almost 70 percent, from 235,000 hectares in 1997/98 to 400,000 in 2007/08, and production to more than double to 1.6 million tons.

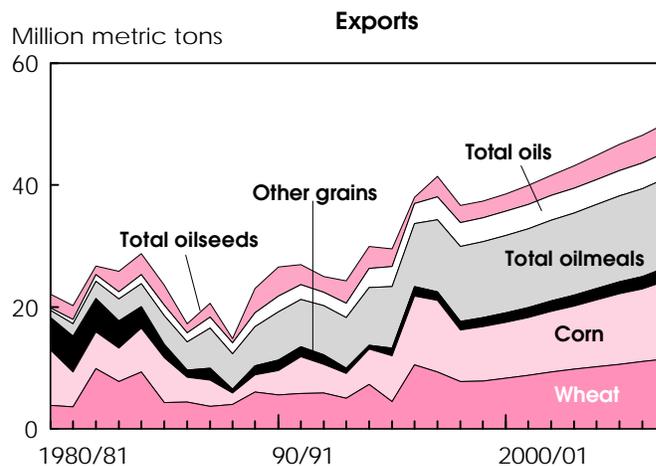
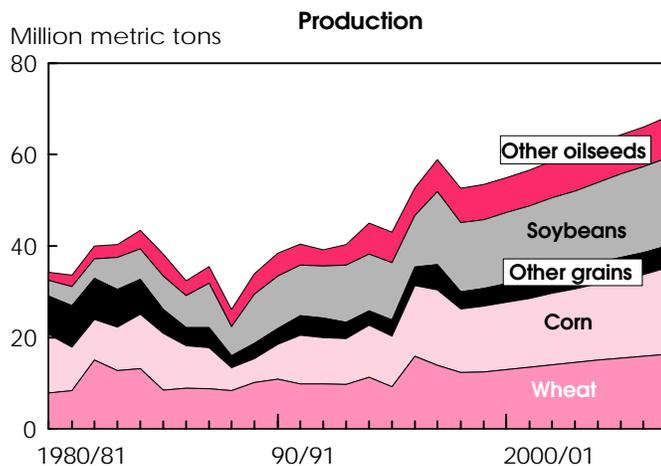
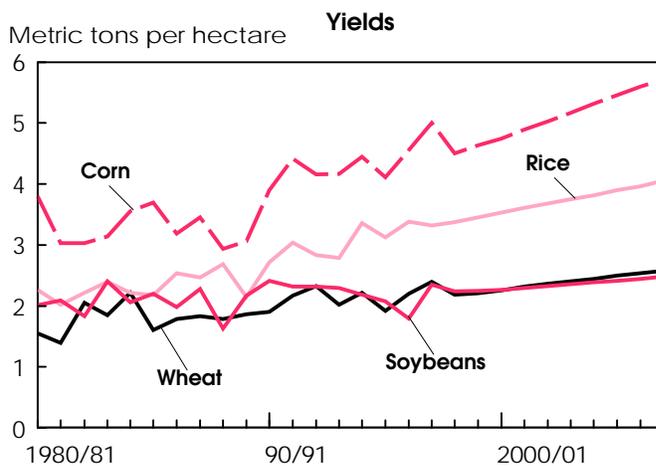
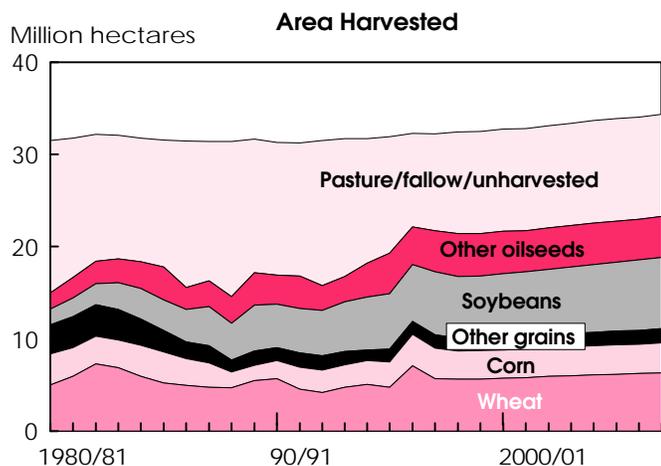
Since the formation of MERCOSUR, the Southern Common Market, the bulk of Argentina's rice exports have been to Brazil. Future growth in the Brazilian market will continue to provide the incentives for growth in Argentina's production. At the same time, improvements in rice quality are underway, which should increase opportunities for Argentine exports in other markets. Argentine rice exports are projected to reach almost 1.4 million tons by 2007/08, from 600,000 tons in 1997/98. Should talk of joint Argentine-Brazilian ventures in the rice sector come to fruition, Argentine production could easily expand beyond baseline projections.

Argentina is the world's second-largest *corn* exporter after the U.S., but its yields are still much lower than those of the U.S. Some analysts believe it is Argentina's corn crop that holds the most potential for expansion via higher yields.

The USDA baseline is projecting that Argentine corn yields will reach an average of 5.75 tons per hectare by 2007/08—still more than 35 percent below the average projected U.S. yields. Given

Special Article

Argentina's Grain and Oilseed Sectors To Surpass High Levels of the Mid-1990's



Other oilseeds include rapeseed, peanuts, sunflowerseed, cottonseed, copra, and palm kernels.

Total oilmeals and oils include products of soy, rapeseed, peanuts, sunflowerseed, cottonseed, palm kernels, and fish.

1996/97 preliminary; 1997/98 forecast; 1998/99-2007/08 projected. 1 hectare = 2.47 acres.

Economic Research Service, USDA

that the excellent weather this year is expected to produce yields of about 5 tons per hectare, the level for 2007/08 may well be underestimated. Production for 2007/08 is expected to be about 18.9 million tons, with 12.8 million tons exported. The production number represents an increase of only 15 percent over the estimate for the current year, and may now be considered by many as too modest, as farmers continue to increase their use of inputs, expand their use of hybrid seed, and improve their planting practices. Improved hybrids have several advantages: they can be planted in higher densities, have a shorter growing season, can be sown in lower soil temperatures, and respond better to fertilizer.

**Oilseeds.** The outlook for oilseeds in Argentina is for continued expansion, although at a slower pace than in the recent past. Rapid expansion in *soybean* area between the early 1970's and the mid-1990's was fueled by the high profits earned by

Argentine soybean farmers. During a period of favorable soybean/corn price ratios between 1985 and 1990, area devoted to corn dropped 1.4 million hectares while soybean area expanded by 1.45 million. Since then, soybean area has continued to expand, moving onto less productive land taken from pasture.

Soybean harvested area is projected to increase from 6.8 million hectares in 1997/98 to about 7.8 million in 2007/08. As much of this additional land will come from increased double-cropping with wheat, yields are expected to grow by a modest 1.2 percent per year. The projected growth in yields may be on the conservative side, however, as more farmers are reportedly moving to shorter maturity varieties that are less prone to early damaging frosts. These varieties can also be planted over a wider geographical area.

Production is expected to increase to 19.5 million tons in 2007/08 from 16 million in 1997/98, while exports are expected to remain in the area of 2.5 million tons. The share of soybeans exported will drop from 16 to 13 percent, with most of the production increase going to the crushing industry. The oilseed crushing industry in Argentina has undergone rapid expansion in the last 10 years, resulting in greater and more efficient capacity. The industry is expected to continue to change, as crushing capacity becomes more concentrated among fewer, more efficient firms. Both local and international firms are expanding or modernizing older plants or building new ones, and it seems likely that the industry will be able to handle the 16-million-ton crush projected in the baseline for 2007/08.

Argentina is currently the world's largest exporter of soybean oil and the second-largest exporter of soybean meal. Most of the soybean meal and oil produced will continue to be exported. Increasing soybean production combined with a larger, more efficient crushing sector and expanding markets for meal and oil should ensure that Argentina remains a world leader in soybean and soyoil exports. Soybean exports are expected to increase from 9.5 million tons in 1997/98 to 12.1 million by 2007/08, while soyoil exports will expand from 2 million to 2.5 million tons.

For *sunflowerseed*, the other major oilseed produced in Argentina, production is projected to expand during the baseline period by about 30 percent, to 7.5 million tons. The bulk of this expansion will come from improved yields, as very little additional area is expected to be devoted to this crop beyond the 3.3 million hectares currently planted. As with soybeans, the vast majority of sunflowerseed will likely continue to be crushed domestically and exported as meal or oil.

Unlike in the grains sector, export taxes still affect the oilseeds sector. To encourage domestic processing, an export tax of 3.5 percent on soybeans is in place, while oil exports obtain an export rebate of 1.35 percent on crude and 3.15 percent on refined. Most Argentine oil exports are of crude oil.

**Livestock.** Most observers believe that 1998 will see a turnaround in the Argentine cattle industry. A growing domestic economy, the depleted stock of cattle, and strong export prospects buoyed by a clean bill of health on foot-and-mouth disease are expected to put upward pressure on Argentina's cattle prices and initiate a moderate cattle rebuilding phase.

There is renewed investor interest in the cattle sector—cattle, land, and meatpacking operations. The price of feeder cattle is currently 45 percent higher than a year ago. The price of land for breeding cattle is 30 percent higher than the 1977-96 average, while good land for fattening cattle (which is also good for cropping) increased more than 100 percent from the average of the past 20 years.

Key assumptions in the USDA baseline for Argentina are that the cattle birth rate will show a slight but steady increase, that slaughter rates will go up slightly as a result of more efficient feeding and improved pasturing, and that per capita domestic

beef consumption will continue to decline. The decline in consumption is primarily as a result of health considerations, although should Argentina gain widespread access to the Asian beef market, this would put upward pressure on beef prices and could accelerate the move away from beef consumption to poultry and pork consumption.

Beef production is expected to increase from 2.55 million tons in calendar-year 1997 to 2.8 million in 2007. Beef slaughter is expected to decline slightly in the first projection year, allowing modest rebuilding in the cattle inventory. Increased production in the future, however, will depend as much on heavier slaughter weights as on increased herd size.

Per capita beef consumption, which dropped from 85 kilograms per person in 1986 to 60.8 in 1997, is projected to drop further to 55.4 kilograms by 2007. Exports will increase from 455,000 tons in 1997 to 650,000 in 2007.

The baseline assumes that Argentina continues to export primarily grass-fed beef, competing mainly with Australia and perhaps New Zealand, but also that it gains limited access to Asian countries. In order to tap new FMD-free markets in Asia, Argentina's feedlot industry would have to expand in order to supply the grain-fed beef the Asian markets demand. Relative grain and beef prices will be the main factors dictating this expansion; the baseline results suggest that less than 5 percent of Argentina's beef production in 2007 will be produced in feedlots.

In the longer term, Argentina could likely export grain-fed beef to new markets in Asia while continuing to export grass-fed product to Europe and Latin America, as Argentina has the natural resources to significantly expand its feedlot capacity. Any earlier or stronger expansion in feedlot production than anticipated in the baseline would have implications for the level of grains and oilmeals available for export.

**USDA's baseline projections** are not intended to forecast the future, but rather to construct a picture of Argentina's agricultural sector under a set of specific assumptions and outcomes. The results are the product of many approaches, including modeling and expert analysis, and are predicated on the assumption that Argentina's current macroeconomic and agricultural policies continue through the projection period. This assumes that the government can continue to support the Argentine currency at the rate of one peso to the dollar, a policy that has been successful until now. It also assumes continuation of a program of monetary stability and fiscal austerity that will keep inflation in check. These measures in turn are assumed to lead to real GDP growth during the next 10 years of about 4.5 percent annually.

The projections were made based on information as of November 1997, assuming average weather and yields for 1997/98 and beyond. Projected prices for the major commodities are expected to continue to decline through 2007, but at a slower rate than long-term trends.

## Special Article

### *What's Ahead*

The reforms of the 1990's paved the way for an expansion in the acreage planted to grains and oilseeds to take advantage of strong world prices in the mid-1990's. Most significantly, producers are rapidly expanding their use of fertilizers and agricultural chemicals. In addition to contributing to higher yields, the increased input use and improved crop cultivation practices are having an impact on traditional crop/livestock rotational schemes, making additional land available for cropping.

High profit expectation—the result of strong prices, low inflation, and wide adoption of modern technology aided by excellent weather—have led to successive unprecedented grain and oilseed crops in 1996/97 and 1997/98, on harvested area the size of which was not envisioned even as recently as 4 years ago. Pasture land previously used for cattle was diverted to crops in 1996/97. At current and projected prices for crops and cattle, very little of this land is likely to revert back to livestock.

About 30 million hectares in Argentina are fit for grain and oilseed farming. Some of this land is still being used exclusively for cattle and will probably eventually become almost exclusively cropland. Much of the cattle production found in the central

Pampa has already been moved to more marginal areas in the region, where further technological development will be needed in order to maintain or improve production efficiency. According to some sources, the Argentine cattle/beef business is just now beginning to undergo a process of improved management and greater use of technology, similar to that which the crop sector is currently undergoing, although the pace for livestock is expected to be slower.

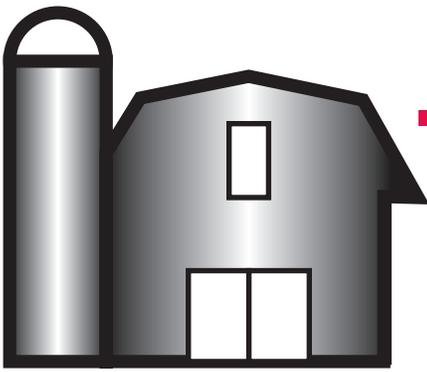
Whether and when these changes will take place, Argentina has already come a long way toward reshaping its agricultural sector. With an expanded and more efficient productive base, a more modernized and less costly marketing system, and market-oriented government policies, the country appears poised to exploit a growing international demand for agricultural products. Argentina has always been dependent on export markets as an outlet for the bulk of its grain and oilseed production, and with a relatively small, slow-growing population and already high per capita consumption rates, most of the future increases in output will find its way onto world markets.

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### **Forthcoming reports in *Agricultural Outlook* . . .**

USDA's baseline projections to 2007—international focus

Free trade scenario for the Americas



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# *Announcing . . .*

## **The 1997 Census of Agriculture**

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***The census of agriculture*** is a complete accounting of U.S. agricultural production and the only source of uniform, comprehensive agricultural data for ***every county*** in the Nation. Taken every 5 years, it was last conducted in 1992 by the Bureau of the Census. The census of agriculture now is the responsibility of a USDA agency, the National Agricultural Statistics Service (NASS).

***In late December 1997***, questionnaires were mailed to farmers and ranchers across the U.S. The census defines a farm as any operation where \$1,000 or more of agricultural products was produced and sold, or normally would have been sold, during the census year. The 1997 Census of Agriculture will be similar to the 1992 and 1987 censuses, containing data on:

- *land use and ownership*
- *operator characteristics*
- *crops area & production*
- *machinery & equipment*
- *livestock*
- *fertilizer*
- *poultry*
- *chemicals*
- *value of products*
- *energy expenditures*
- *irrigated land*
- *production expenses*
- *type of organization*
- *farm programs*
- *corporate structure*

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## **Census of Agriculture Publications, 1992**

*Agricultural Atlas*  
*Census History*  
*Congressional Tabulation*  
*Coverage Evaluation*  
*Farm & Ranch Irrigation*  
*Geographic Area Series - Vol. 1*  
*Horticulture Specialties (1987)*  
*Outlying Areas*  
*Public Use File*  
*Ranking-States & Counties*  
*Zip Code Tabulation*

## **NASS**

### **Census of Agriculture**

Information            1-800-523-3215  
FAX                      301-763-8499  
E-mail                  nass@nass.usda.gov

### **Home Page**

<http://www.usda.gov/nass/>

*Next year's annual issue of the ERS-NASS Catalog will provide up-to-date information on products and services that will be available from the 1997 Census of Agriculture.*

# Statistical Indicators

## Summary Data

**Table 1—Key Statistical Indicators of the Food & Fiber Sector**

	Annual			1997				1998		
	1996	1997	1998 F	I	II	III	IV F	I F	II F	III F
Prices received by farmers (1990-92=100)	112	107	--	107	108	107	106	--	--	--
Livestock & products	99	99	--	98	99	99	97	--	--	--
Crops	126	115	--	116	117	115	113	--	--	--
Prices paid by farmers (1990-92=100)								--	--	--
Production items	115	116	--	115	117	116	115	--	--	--
Commodities and services, interest, taxes, and wages	115	116	--	116	117	116	116	--	--	--
Cash receipts (\$ bil.) <sup>1</sup>	202	201	198	48	44	49	61	48	42	48
Livestock	93	93	91	23	23	23	23	23	22	23
Crops	109	109	107	25	21	26	38	25	20	25
Market basket (1982-84=100)										
Retail cost	156	--	--	160	159	--	--	--	--	--
Farm value	111	--	--	107	107	--	--	--	--	--
Spread	180	--	--	188	187	--	--	--	--	--
Farm value/retail cost (%)	25	--	--	24	24	--	--	--	--	--
Retail prices (1982-84=100)										
All food	153	157	161	157	157	158	159	159	160	161
At home	154	158	160	158	158	158	159	160	160	161
Away from home	153	157	161	156	156	157	159	160	161	162
Agricultural exports (\$ bil.) <sup>2</sup>	59.8	57.4	58.5	14.9	13.2	12.9	--	--	--	--
Agricultural imports (\$ bil.) <sup>2</sup>	32.4	35.8	38.0	9.1	9.3	8.7	--	--	--	--
Commercial production										
Red meat (mil. lb.)	43,135	43,222	44,137	10,459	10,655	10,941	11,167	10,977	10,895	11,242
Poultry (mil. lb.)	32,289	33,242	34,775	7,986	8,491	8,395	8,370	8,355	8,840	8,855
Eggs (mil. doz.)	6,358	6,447	6,625	1,587	1,591	1,604	1,665	1,630	1,640	1,665
Milk (bil. lb.)	154.3	156.8	157.1	38.9	40.6	38.9	38.3	39.2	40.8	38.7
Consumption, per capita										
Red meat and poultry (lb.)	209.2	208.3	216.0	49.8	52.3	52.5	53.6	52.9	54.0	54.5
Corn beginning stocks (mil. bu.) <sup>3</sup>	1,557.8	425.9	883.2	425.9	6,903.0	4,494.1	2,496.6	883.2	7,229.8	--
Corn use (mil. bu.) <sup>3</sup>	8,522.3	8,849.5	9,310.0	2,819.8	2,411.2	2,001.3	1,617.1	3,021.1	--	--
Prices <sup>4</sup>										
Choice steers--Neb. Direct (\$/cwt)	65.21	66.32	65-70	66.40	66.63	65.65	66.61	63-65	65-69	65-71
Barrows and gilts--IA, So. MN (\$/cwt)	53.39	51.36	38-41	51.06	56.41	54.45	43.53	36-38	39-41	41-45
Broilers --12-city (cents/lb.)	61.2	58.80	54-58	60.00	59.10	62.00	54.00	53-55	55-59	57-61
Eggs--NY gr. A large (cents/doz.)	88.2	81.20	74-79	84.90	72.10	79.70	88.20	78-80	68-72	72-78
Milk--all at plant (\$/cwt)	14.87	13.38	13.30-14.00	13.47	12.93	12.70	14.40	14.25-14.55	12.75-13.35	12.30-13.20
Wheat--KC HRW ordinary (\$/bu.)	5.48	3.82	--	5.48	4.57	4.49	3.76	4.16	--	--
Corn--Chicago (\$/bu.)	3.87	2.74	--	3.87	2.86	2.86	2.64	2.78	--	--
Soybeans--Chicago (\$/bu.)	7.53	7.60	--	7.74	8.54	7.19	6.95	--	--	--
Cotton--avg. spot 41-34 (cents/lb)	77.93	69.89	--	70.73	69.81	71.40	67.64	--	--	--
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Farm real estate values <sup>5,6</sup>										
Nominal (\$ per acre)	632	668	683	703	713	736	782	832	890	942
Real (1982 \$)	530	539	528	521	507	511	529	550	574	596

F = Forecast. -- = Not available. 1. Quarterly data seasonally adjusted at annual rates. 2. Annual data based on Oct.-Sept. fiscal years ending with year indicated. 3. Sept.-Nov. first quarter; Dec.-Feb. second quarter; Mar.-May third quarter; Jun.-Aug. fourth quarter; Sept.-Aug. annual. Use includes exports and domestic disappearance. 4. Simple averages, Jan.-Dec. 5. 1990-94 values as of January 1. 1986-89 values as of February 1. 6. The 1989-94 values are revised based on the 1992 Census of Agriculture.

## U.S. & Foreign Economic Data

**Table 2—U.S. Gross Domestic Product & Related Data**

	Annual			1996			1997			
	1995	1996	1997	II	III	IV	I	II	III	IV
<i>Billions of current dollars (quarterly data seasonally adjusted at annual rates)</i>										
Gross Domestic Product	7,265.4	7,636.0	8,083.4	7,607.7	7,676.0	7,792.9	7,933.6	8,034.3	8,124.3	8,241.5
Gross National Product	7,270.6	7,637.7	--	7,610.5	7,669.1	7,796.1	7,919.2	8,013.6	8,103.5	--
Personal consumption expenditures	4,957.7	5,207.6	5,488.6	5,189.1	5,227.4	5,308.1	5,405.7	5,432.1	5,527.4	5,589.3
Durable goods	608.5	634.5	659.4	638.6	634.5	638.2	658.4	644.5	667.3	667.6
Nondurable goods	1,475.8	1,534.7	1,592.7	1,532.3	1,538.3	1,560.1	1,587.4	1,578.9	1,600.8	1,603.9
Food	735.1	756.1	776.4	752.2	757.4	766.6	775.5	771.4	779.3	779.5
Clothing and shoes	254.7	264.3	277.6	265.7	265.7	266.2	275.2	274.8	280.5	279.8
Services	2,873.4	3,038.4	3,236.5	3,018.2	3,054.6	3,109.8	3,159.9	3,208.7	3,259.3	3,317.9
Gross private domestic investment	1,038.2	1,116.5	1,237.6	1,105.4	1,149.2	1,151.1	1,193.6	1,242.0	1,250.2	1,264.5
Fixed investment	1,008.1	1,090.7	1,173.0	1,082.0	1,112.0	1,119.2	1,127.5	1,160.8	1,201.3	1,202.4
Change in business inventories	30.1	25.9	64.6	23.4	37.1	31.9	66.1	81.1	48.9	62.1
Net exports of goods and services	-86.0	-94.8	-96.7	-93.8	-114	-88.6	-98.8	-88.7	-111.3	-87.9
Government consumption expenditures and gross investment	1,355.5	1,406.7	1,453.9	1,407.0	1,413.5	1,422.3	1,433.1	1,449.0	1,457.9	1,475.6
<i>Billions of 1992 dollars (quarterly data seasonally adjusted at annual rates)<sup>1</sup></i>										
Gross Domestic Product	6,742.1	6,928.4	7,191.4	6,926.0	6,943.8	7,017.4	7,101.6	7,159.6	7,214.0	7,290.3
Gross National Product	6,748.7	6,932.0	--	6,930.1	6,940.2	7,023.1	7,091.8	7,144.4	7,198.8	--
Personal consumption expenditures	4,595.3	4,714.1	4,869.7	4,712.2	4,718.2	4,756.4	4,818.1	4,829.4	4,896.2	4,935.0
Durable goods	583.6	611.1	645.8	614.8	611.9	617.1	637.8	629.0	656.1	660.3
Nondurable goods	1,412.6	1,432.3	1,459.3	1,431.6	1,433.9	1,441.2	1,457.8	1,450.0	1,465.5	1,464.1
Food	690.5	689.7	689.9	690.3	687.3	689.0	694.6	688.2	689.5	687.3
Clothing and shoes	257.5	267.7	278.2	268.4	270.8	270.0	277.1	273.8	281.3	280.6
Services	2,599.6	2,671.0	2,765.2	2,666.5	2,672.8	2,698.2	2,723.9	2,749.8	2,776.1	2,811.0
Gross private domestic investment	991.5	1,069.1	1,192.2	1,059.2	1,100.3	1,104.8	1,149.2	1,197.1	1,204.6	1,217.9
Fixed investment	962.1	1,041.7	1,122.3	1,035.7	1,060.9	1,068.7	1,079.0	1,111.4	1,149.3	1,149.6
Change in business inventories	27.3	25.0	62.2	21.3	37.9	32.9	63.7	77.6	47.5	59.9
Net exports of goods and services	-98.8	-114.4	-142.1	-112.6	-138.9	-105.6	-126.3	-136.6	-164.1	-141.4
Government consumption expenditures and gross investment	1,251.9	1,257.9	1,270.6	1,265.1	1,261.5	1,261.8	1,260.5	1,270.1	1,273.4	1,278.5
GDP implicit price deflator (% change)	2.5	2.3	2.0	1.7	2.6	1.9	2.4	1.8	1.4	1.5
Disposable personal income (\$ bil.)	5,355.7	5,608.3	5,886.6	5,573.5	5,644.6	5,695.8	5,790.5	5,849.9	5,908.9	5,996.9
Disposable per. income (1992 \$ bil.)	4,964.2	5,076.9	5,222.7	5,061.3	5,094.8	5,103.8	5,161.1	5,200.9	5,234.1	5,294.8
Per capita disposable pers. income (\$)	20,349.0	21,117.0	21,976.0	21,012	21,229	21,373.0	21,689.0	21,865.0	22,034.0	22,312.0
Per capita disp. pers. income (1992 \$)	18,861.0	19,116.0	19,497.0	19,081	19,161	19,152.0	19,331.0	19,439.0	19,518.0	19,700.0
U.S. resident population plus Armed Forces overseas (mil.) <sup>2</sup>	263.2	265.6	267.8	265.2	265.8	266.4	266.9	267.4	268.1	268.9
Civilian population (mil.) <sup>2</sup>	261.5	264.0	266.3	263.6	264.2	264.9	265.4	265.9	266.5	267.3
<i>Monthly data seasonally adjusted</i>										
	Annual	Annual	1997	1996	1996	1996	1997	1997	1997	1997
	1995 R	1996 R	1997	Dec	Jul	Aug	Sep	Oct	Nov	Dec
<i>Monthly data seasonally adjusted</i>										
Total industrial production (1987=100)	116.0	120.2	127.0	102.6	128.2	129.0	128.0	128.9	130.5	131.1
Leading economic indicators (1987=100)	100.8	102.0	103.8	0.0	104.4	104.5	104.3	104.4	104.5	104.5
Civilian employment (mil. persons) <sup>3</sup>	124.9	126.7	129.6	5.3	129.7	129.9	129.8	129.9	130.6	130.8
Civilian unemployment rate (%) <sup>3</sup>	5.6	5.4	4.9	6,664.4	4.9	4.7	4.9	4.8	4.6	4.7
Personal income (\$ bil. annual rate)	6,150.8	6,495.2	6,874.4	0.0	6,935.5	6,974.4	6,935.5	6,971.2	7,022.4	7,052.7
Money stock-M2 (daily avg.) (\$ bil.) <sup>4</sup>	3,651.2	3,826.1	4,040.2	4.9	3,960.0	3,975.8	3,973.8	3,993.1	4,017.5	4,040.2
Three-month Treasury bill rate (%)	5.5	5.0	5.1	7.20	4.97	4.95	5.0	5.0	5.2	5.2
AAA corporate bond yield (Moody's) (%)	7.6	7.4	7.3	1,353.0	7.15	7.00	7.2	7.0	6.9	6.8
Total housing starts (1,000) <sup>5</sup>	1,354.1	1,476.8	1,475.9	0	1,507	1,519	1,507.0	1,527.0	1,531.0	1,519.0
Business inventory/sales ratio <sup>6</sup>	1.4	1.4	--	206.7	1.36	1.37	1.4	1.4	1.4	--
Sales of all retail stores (\$ bil.) <sup>7</sup>	2,346.3	2,465.1	2,546.3	123.2	213.8	213.5	213.8	213.5	213.8	214.6
Nondurable goods stores (\$ bil.)	1,405.6	1,457.8	1,505.4	35.7	126.8	126.7	126.8	126.7	126.2	125.9
Food stores (\$bil.)	408.4	424.2	432.1	9.4	36.3	36.3	36.3	36.3	36.4	36.3
Apparel and accessory stores (\$ bil.)	109.5	113.0	116.8	19.9	9.8	9.8	9.8	9.8	9.8	9.8
Eating and drinking places (\$ bil.)	239.9	238.4	244.1	0.0	20.6	20.5	20.6	20.5	20.3	20.5

P = Preliminary. R = Revised. -- = Not available. 1. In April 1996, 1992 dollars replaced 1987 dollars. 2. Population estimates based on 1990 census.

3. Data beginning January 1994 are not directly comparable with data for earlier periods because of a major redesign of the household survey questionnaire.

4. Annual data as of December of the year listed. 5. Private, including farm. 6. Manufacturing and trade. 7. Annual total.

Information contact: David Johnson (202) 694-5324

Table 3—World Economic Growth

	Calendar Year									
	1989	1990	1991	1992	1993	1994	1995	1996 E	1997 F	1998 F
	<i>Real GDP, annual percent change</i>									
World	3.6	2.4	1.8	1.7	1.2	2.4	2.2	2.9	3.1	2.6
World, less U.S.	3.6	2.9	2.8	1.3	0.8	2.0	2.3	3.0	2.9	2.5
Developed	3.7	2.6	1.8	1.6	0.7	2.4	1.8	2.5	2.7	2.4
Developed, less U.S.	3.8	3.4	3.3	1.1	-0.1	1.8	1.7	2.3	2.0	2.2
U.S.	3.4	1.3	-1.0	2.7	2.2	3.5	2.0	2.8	3.8	2.7
Canada	2.4	-0.3	-1.8	0.8	2.3	4.6	2.2	1.5	3.5	3.0
Japan	4.9	5.1	4.0	1.0	0.1	0.4	0.9	3.7	0.8	1.0
European Union	3.5	3.0	3.6	1.1	-0.6	2.1	1.9	1.6	2.5	2.7
Germany	3.6	5.7	13.2	2.2	-1.1	0.0	0.0	1.5	2.5	2.8
Central Europe	-0.6	-6.3	-10.6	-3.8	0.5	3.4	5.3	2.8	2.2	3.6
Former Soviet Union	2.1	-3.7	-5.7	-13.6	-9.7	-14.7	-5.4	-6.4	-0.2	0.2
Russia	1.9	-3.6	-5.0	-14.5	-8.7	-12.6	-4.0	-6.0	0.4	0.5
Developing	3.8	3.5	4.0	5.2	5.1	4.7	4.7	5.6	5.3	3.5
Asia	6.1	6.1	6.0	8.1	7.9	8.8	8.3	7.6	6.4	3.7
Pacific-Asia	6.2	6.4	8.1	9.2	9.5	9.9	9.1	7.9	6.7	3.2
China	4.1	3.7	9.5	14.6	13.9	13.0	10.7	9.7	8.8	7.2
South Asia	6.1	5.6	1.2	5.4	3.8	5.9	5.8	6.5	5.8	5.2
India	6.6	5.6	0.5	5.3	4.0	6.3	6.1	6.8	6.0	5.3
Latin America	1.0	-0.1	3.4	2.8	3.6	1.2	0.0	3.3	5.0	3.1
Mexico	3.4	4.5	3.6	2.9	0.7	3.6	-7.2	5.1	7.2	4.8
Caribbean/Central	4.6	1.0	2.4	4.2	3.7	2.4	2.8	3.0	3.0	3.1
South America	-0.1	-1.4	3.5	2.6	4.4	5.4	1.8	2.9	4.7	2.7
Brazil	3.3	-4.6	0.5	-1.2	4.5	5.8	3.0	2.9	3.5	1.0
Middle East	3.4	4.8	2.6	5.3	4.7	0.7	3.4	4.4	3.5	3.5
Africa	3.3	1.5	0.8	0.5	-0.7	1.9	2.2	3.6	3.2	3.1
North Africa	3.3	2.2	1.6	0.8	-0.5	2.1	1.8	4.2	3.7	3.5
Sub-Sahara	3.2	1.1	0.3	0.2	-0.8	1.7	2.4	3.2	2.9	2.8

E = Estimate. F = Forecast.

Information contact: Alberto Jerardo (202) 694-5323

## Farm Prices

**Table 4—Indexes of Prices Received & Paid by Farmers, U.S. Average**

	Annual			1997						1998
	1995 R	1996 R	1997	Jan	Aug	Sep	Oct	Nov	Dec R	Jan
	1990-92=100									
Prices received										
All farm products	102	112	107	108	108	107	107	107	105	103
All crops	112	126	115	116	117	114	115	114	111	111
Food grains	134	157	128	137	122	126	124	122	119	117
Feed grains and hay	112	146	117	118	115	114	113	112	112	113
Cotton	127	122	112	112	111	115	115	112	105	103
Tobacco	103	105	104	111	92	101	103	106	110	108
Oil-bearing crops	104	128	130	127	128	111	111	119	119	117
Fruit and nuts, all	100	118	109	96	128	135	129	114	89	77
Commercial vegetables	120	109	120	111	125	117	146	125	133	150
Potatoes and dry beans	107	114	93	84	110	88	86	93	96	99
Livestock and products	92	99	99	98	99	99	97	98	97	94
Meat animals	85	87	92	90	94	92	89	88	87	83
Dairy products	98	114	102	103	97	101	107	112	112	112
Poultry and eggs	107	120	114	122	118	116	108	113	107	105
Prices paid										
Commodities and services										
Interest, taxes, and wage rates	110	115	116	116	116	116	116	116	116	116
Production items	109	115	116	115	116	116	115	115	115	115
Feed	104	130	122	121	118	121	116	116	116	117
Livestock and poultry	82	75	93	85	97	96	94	93	94	92
Seeds	110	115	119	117	120	120	120	120	120	120
Fertilizer	120	124	121	124	119	119	119	117	115	113
Agricultural chemicals	115	119	121	121	121	121	122	123	123	123
Fuels	94	105	103	115	100	101	102	102	94	87
Supplies and repairs	112	115	117	116	118	118	118	118	118	118
Autos and trucks	107	108	109	110	108	108	109	109	109	109
Farm machinery	120	125	128	126	127	127	129	129	129	129
Building material	114	115	118	117	118	118	118	118	118	118
Farm services	118	118	118	117	118	119	118	118	117	117
Rent	116	119	119	119	119	119	119	119	119	124
Int. payable per acre on farm real estate debt	101	105	106	106	106	106	106	106	106	108
Taxes payable per acre on farm real estate	109	112	115	115	115	115	115	115	115	119
Wage rates (seasonally adjusted)	114	117	123	124	119	119	126	126	126	126
Production items, interest, taxes, and wage rates	109	114	116	115	115	116	115	115	115	116
Ratio, prices received to prices paid (%)*	93	98	92	93	93	92	92	92	91	89
Prices received (1910-14=100)	647	712	679	684	686	680	682	679	665	657
Prices paid, etc. (parity index) (1910-14=100)	1,437	1,504	1,527	1,519	1,522	1,527	1,525	1,524	1,520	1,525
Parity ratio (1910-14=100) (%)*	45	47	45	45	45	45	45	45	44	43

R = revised. P = preliminary. -- = not available. \*Ratio of index of prices received for all farm products to index of prices paid for commodities and services, interest, taxes, and wage rates. Ratio uses the most recent prices paid index. Prices paid data are quarterly and are published in January, April, and October. *Information contact:* David Johnson (202) 694-5324. For historical data or for categories not listed here, call the National Agricultural Statistics Service (NASS) Information Hotline at 1-800-727-9540. Internet users can access the NASS Home Page at <http://www.usda.gov/nass>.

**Table 5—Prices Received by Farmers, U.S. Average**

	Annual <sup>1</sup>			1997						1998
	1994	1995	1996	Jan	Aug	Sep	Oct	Nov	Dec R	Jan
<b>Crops</b>										
All wheat (\$/bu.)	3.45	4.55	4.30	4.02	3.56	3.67	3.55	3.50	3.45	3.33
Rice, rough (\$/cwt)	6.78	9.15	9.50	9.87	9.94	9.85	10.10	9.71	9.67	9.79
Corn (\$/bu.)	2.26	3.24	2.70	2.69	2.50	2.52	2.54	2.51	2.52	2.57
Sorghum (\$/cwt)	3.80	5.69	4.20	4.03	4.09	3.99	4.06	3.93	3.94	4.15
All hay, baled (\$/ton)	86.70	82.20	93.00	97.90	101.00	101.00	103.00	101.00	97.70	98.10
Soybeans (\$/bu.)	5.48	6.72	6.85	7.13	7.25	6.72	6.50	6.85	6.71	6.56
Cotton, upland (cents/lb.)	72.00	75.40	70.60	67.90	67.10	69.40	69.60	67.60	63.80	62.60
Potatoes (\$/cwt)	5.58	6.77	5.11	4.23	6.33	5.16	4.96	5.36	5.40	5.49
Lettuce (\$/cwt) <sup>2</sup>	13.30	23.50	14.80	14.90	22.80	22.30	35.10	22.10	21.30	30.10
Tomatoes fresh (\$/cwt) <sup>2</sup>	27.40	25.80	28.50	33.50	26.10	23.30	24.30	44.20	48.40	28.80
Onions (\$/cwt)	9.87	9.87	9.58	9.75	14.40	10.70	9.44	10.20	10.90	12.60
Beans, dry edible (\$/cwt)	22.50	20.80	24.20	23.20	20.40	16.30	16.90	18.30	20.20	21.60
Apples for fresh use (cents/lb.)	18.60	24.00	20.90	22.50	19.00	24.70	25.30	22.90	23.70	22.30
Pears for fresh use (\$/ton)	223.00	272.00	375.00	557.00	330.00	360.00	334.00	330.00	287.00	253.00
Oranges, all uses (\$/box) <sup>3</sup>	6.37	6.11	6.93	3.97	6.93	6.95	3.69	2.15	2.53	2.58
Grapefruit, all uses (\$/box) <sup>3</sup>	5.26	4.61	4.63	1.84	5.78	4.18	4.15	2.49	2.57	1.79
<b>Livestock</b>										
Cattle, all beef (\$/cwt)	66.50	61.80	58.70	61.40	63.90	63.60	63.30	63.30	62.90	61.80
Calves (\$/cwt)	87.10	73.10	58.40	68.10	88.00	86.90	84.30	82.90	83.30	83.20
Hogs, all (\$/cwt)	39.50	40.50	51.90	53.80	55.30	50.40	47.30	45.10	41.60	36.40
Lambs (\$/cwt)	64.80	78.20	88.20	94.60	92.70	90.60	87.40	83.50	84.10	--
All milk, sold to plants (\$/cwt)	13.01	12.78	14.75	13.40	12.70	13.20	14.00	14.60	14.60	14.60
Milk, manuf. grade (\$/cwt)	11.85	11.79	13.43	12.10	11.90	12.70	13.20	13.60	13.50	13.50
Broilers, live (cents/lb.)	35.00	34.40	38.10	40.40	40.10	38.50	35.00	34.30	32.10	33.10
Eggs, all (cents/doz.) <sup>4</sup>	67.25	62.40	75.00	75.80	63.50	69.60	65.80	80.60	78.70	74.00
Turkeys (cents/lb.)	40.70	41.00	43.30	38.60	40.70	41.10	40.30	42.30	38.60	35.50

P = Preliminary. R = Revised. -- = Not available. 1. Season-average price by crop year for crops. Calendar year average of monthly prices for livestock.

2. Excludes Hawaii. 3. Equivalent on-tree returns. 4. Average of all eggs sold by producers including hatching eggs and eggs sold at retail.

Information contact: David Johnson (202) 694-5324. For historical data or for categories not listed here, call the National Agricultural Statistics Service (NASS) Information Hotline at 1-800-727-9540. Internet users can access the NASS Home Page at <http://www.usda.gov/nass>

## Producer & Consumer Prices

**Table 6—Consumer Price Indexes for All Urban Consumers, U.S. Average (not seasonally adjusted)**

	Annual			1997						1998
	1995	1996	1997	Jan	Aug	Sep	Oct	Nov	Dec	Jan
	<i>1982-84=100</i>									
Consumer Price Index, all items	152.4	156.9	160.5	159.1	160.8	161.2	161.6	161.5	161.3	161.6
CPI, all items less food	153.1	157.5	161.1	159.6	161.3	161.8	162.2	162.1	161.8	161.9
All food	148.4	153.3	157.3	156.5	157.6	157.9	158.2	158.5	158.7	159.9
Food away from home	149	152.7	157.0	155.3	157.4	157.8	158.2	158.6	159.0	159.2
Food at home	148.8	154.3	158.1	157.9	158.5	158.6	159.0	159.1	159.2	161.0
Meats <sup>1</sup>	135.5	140.2	144.4	144.5	145.5	145.6	145.2	144.6	143.4	143.2
Beef and veal	134.9	134.5	136.8	137.5	137.0	137.2	137.1	137.0	136.9	136.8
Pork	134.8	148.2	155.9	155.7	158.6	158.9	157.4	155.5	153.0	152.1
Poultry	143.5	152.4	156.6	158.2	155.6	156.8	155.6	157.4	155.2	155.1
Fish and seafood	171.6	173.1	177.1	178.6	177.5	176.5	178.4	178.9	177.2	180.7
Eggs	120.5	142.1	140.0	149.0	137.7	136.9	135.9	145.1	151.1	143.8
Dairy Products <sup>2</sup>	132.8	142.1	145.5	147.8	143.4	143.5	145.7	147.0	147.8	148.3
Fats and oils <sup>3</sup>	137.3	140.5	141.7	142.3	141.4	142.0	141.7	140.4	140.3	140.5
Fresh fruit	219	234.4	236.3	239.1	237.0	243.9	242.6	233.9	239.4	240.2
Processed fruits	137.1	145.2	148.8	148.6	148.7	148.5	148.4	147.8	148.4	--
Fresh vegetables	193.1	189.2	194.6	190.6	192.3	189.5	192.8	205.2	205.2	233.8
Potatoes	174.7	180.6	174.2	164.2	194.0	191.7	181.6	174.3	175.0	180.2
Processed vegetables	138.3	143.9	147.2	148.4	149.1	146.8	145.9	146.2	145.9	--
Cereal and bakery products	167.5	174.0	177.6	176.5	178.6	178.1	178.4	178.0	178.4	179.0
Sugar and sweets	137.5	143.7	147.8	146.9	147.8	148.5	148.2	147.4	147.9	150.3
Nonalcoholic beverages	131.7	128.6	133.4	128.3	136.7	136.7	136.6	134.7	133.1	134.1
Apparel										
Apparel, commodities less footwear	129.3	128.5	129.4	125.9	125.9	129.6	131.4	131.4	127.6	--
Footwear	125.4	126.6	127.6	125.0	126.3	127.4	130.6	129.3	128.2	127.4
Tobacco and smoking products	225.7	232.8	243.7	236.4	243.4	246.5	250.2	250.7	251.2	253.8
Alcoholic beverages	153.9	158.5	162.8	161.1	163.2	163.5	163.7	163.7	164.0	164.6

-- = Not available. 1. Beef, veal, lamb, pork, and processed meat. 2. Includes butter. 3. Excludes butter.

Information contact: David Johnson (202) 694-5324. For historical data or for categories not listed here, call the Bureau of Labor Statistics' CPI Information Hotline at (202) 606-7828.

**Table 7—Producer Price Indexes, U.S. Average (not seasonally adjusted)**

	Annual			1997						1998
	1994	1995	1996	Jan R	Aug	Sep R	Oct	Nov	Dec	Jan
	<i>1982=100</i>									
All commodities	120.4	124.8	127.7	129.7	127.2	127.5	127.8	127.8	126.7	125.5
Finished goods <sup>1</sup>	125.5	127.9	131.3	132.6	131.7	131.8	132.4	131.8	131.1	130.2
All foods <sup>2</sup>	125.2	126.7	132.5	132.4	132.6	132.6	133.3	133.3	132.8	130.8
Consumer foods	126.8	129.0	133.6	134.1	134.9	134.7	135.0	134.5	134.2	132.8
Fresh fruits and melons	82.6	85.7	100.8	111.7	82.4	93.4	96.1	87.8	107.3	87.4
Fresh and dry vegetables	129.1	144.4	135.0	108.7	131.7	125.0	146.0	130.0	126.8	143.1
Dried fruits	121.1	121.2	124.2	124.8	125.7	125.7	125.7	125.2	124.8	124.8
Canned fruits and juices	126.0	129.4	137.5	139.1	137.1	136.2	135.7	135.1	134.8	133.0
Frozen fruits, juices and ades	111.9	115.9	123.9	121.6	117.8	114.8	114.2	110.8	110.0	110.0
Fresh veg. except potatoes	117.8	139.8	120.9	105.2	125.2	121.8	143.1	124.7	118.5	133.1
Canned vegetables and juices	116.3	116.6	121.2	121.5	119.3	119.3	120.4	120.3	120.4	121.4
Frozen vegetables	126.0	124.2	125.4	125.9	125.6	125.7	126.3	125.8	125.0	124.9
Potatoes	142.3	142.6	133.9	81.0	159.0	148.3	132.6	117.5	118.3	116.5
Eggs for fresh use (1991=100)	80.9	86.3	105.1	104.2	88.0	100.1	90.1	117.7	109.7	98.3
Bakery products	160.0	164.3	169.8	173.2	174.0	174.3	174.6	174.6	174.6	125.5
Meats	104.6	102.9	109.0	111.1	115.4	112.5	109.4	108.0	106.3	102.3
Beef and veal	103.6	100.9	100.2	101.9	104.5	104.0	103.1	103.9	101.4	100.0
Pork	101.3	101.4	120.9	123.4	132.3	123.5	115.2	111.0	109.8	98.1
Processed poultry	114.8	114.3	119.8	118.6	119.4	118.6	117.0	115.8	114.0	112.6
Unprocessed and packaged fish	161.5	170.9	165.9	183.8	166.8	169.7	188.1	190.0	182.7	190.0
Dairy products	119.5	119.7	130.4	126.3	126.0	127.1	130.3	134.1	134.2	129.9
Processed fruits and vegetables	121.2	122.4	127.6	127.8	125.9	125.3	125.6	124.9	124.7	124.5
Shortening and cooking oil	138.6	142.5	138.5	136.6	135.8	136.6	142.4	144.5	136.9	138.2
Soft drinks	126.9	133.1	134.0	133.7	133.0	132.9	132.8	132.4	132.3	133.1
Finished consumer goods less foods	121.6	123.9	127.6	129.5	128.1	128.6	128.8	128.1	127.2	126.0
Alcoholic beverages	124.8	128.5	132.8	135.4	135.8	134.1	133.9	133.8	134.3	135.1
Apparel	123.5	124.2	125.1	125.4	125.9	125.9	125.3	125.7	125.9	125.7
Footwear	135.5	139.2	141.6	143.1	144.3	144.4	144.4	144.2	144.2	144.6
Tobacco products	224.7	231.3	237.4	239.4	247.8	256.4	255.7	256.0	257.9	257.2
Intermediate materials <sup>3</sup>	118.5	124.9	125.8	126.3	125.8	126.0	125.5	125.6	125.0	124.2
Materials for food manufacturing	118.5	119.5	125.3	122.9	122.9	123.1	122.4	124.4	123.0	119.7
Flour	110.3	122.8	136.8	122.1	116.3	118.0	115.6	115.1	113.3	109.9
Refined sugar <sup>4</sup>	118.3	119.4	123.7	126.0	123.1	122.6	121.5	120.2	119.7	119.1
Crude vegetable oils	135.0	129.8	118.1	114.7	110.6	112.7	119.8	126.2	126.4	125.9
Crude materials <sup>5</sup>	101.7	102.7	113.8	126.3	107.5	108.5	111.6	113.8	107.4	102.7
Foodstuffs and feedstuffs	106.5	105.8	121.5	112.2	111.6	110.6	109.4	110.2	108.8	105.4
Fruits and vegetables and nuts <sup>6</sup>	104.6	108.4	122.5	117.0	109.0	112.8	122.7	111.8	121.4	116.9
Grains	102.7	112.6	151.1	111.1	106.3	107.2	109.1	107.1	107.4	104.4
Slaughter livestock	96.4	92.8	95.2	95.4	97.9	95.8	93.0	93.1	91.4	85.6
Slaughter poultry, live	124.4	125.6	140.5	138.1	147.9	139.9	121.7	122.3	115.9	116.9
Plant and animal fibers	120.7	155.3	129.4	116.4	121.1	118.3	116.8	115.5	108.4	104.1
Fluid milk	95.8	93.7	107.9	97.0	93.7	97.0	98.4	103.0	104.7	105.8
Oilseeds	117.4	112.6	139.4	134.7	133.9	130.2	129.5	134.8	128.3	123.9
Leaf tobacco	101.2	78.9	89.4	118.2	94.1	103.2	105.5	103.5	112.6	110.8
Raw cane sugar	115.2	119.7	118.6	117.6	118.4	118.3	118.3	116.4	116.5	116.5

-- = Not available. R = Revised. 1. Commodities ready for sale to ultimate consumer. 2. Includes all raw, intermediate, and processed foods (excludes soft drinks, alcoholic beverages, and manufactured animal feeds). 3. Commodities requiring further processing to become finished goods. 4. All types and sizes of refined sugar. 5. Products entering market for the first time that have not been manufactured at that point. 6. Fresh and dried. Information contact: David Johnson (202) 694-5324. For historical data or for categories not listed here, call the Bureau of Labor Statistics' PPI Information Hotline at (202) 606-7705.

## Farm-Retail Price Spreads

Table 8—Farm-Retail Price Spreads

	Annual			1996	1997					
	1994	1995	1996	Nov	Jun	Jul	Aug	Sep	Oct	Nov
Market Basket <sup>1</sup>										
Retail cost (1982-84=100)	145.4	149.4	155.9	159.4	158.6	159.0	159.8	160.0	160.4	160.6
Farm value (1982-84=100)	101.4	102.7	110.8	114.5	105.3	105.2	106.5	105.2	103.6	106.8
Farm-retail spread (1982-84=100)	169.0	174.6	180.3	183.7	187.4	187.9	188.5	189.6	190.9	189.6
Farm value-retail cost (%)	24.4	24.1	24.9	25.1	23.2	23.2	23.3	23.0	22.6	23.3
Meat products										
Retail cost (1982-84=100)	135.4	135.5	140.1	144.6	144.5	144.6	145.5	145.6	145.2	144.7
Farm value (1982-84=100)	96.1	93.8	100.4	106.7	104.5	103.9	104.1	100.5	97.8	97.0
Farm-retail spread (1982-84=100)	175.7	178.2	180.9	183.5	185.6	186.4	188.0	191.9	193.8	193.6
Farm value-retail cost (%)	35.9	35.1	36.3	37.4	36.6	36.4	36.2	34.9	34.1	34.0
Dairy products										
Retail cost (1982-84=100)	131.7	132.8	142.1	149.3	144.1	143.3	143.4	143.5	145.7	147.0
Farm value (1982-84=100)	94.5	92.2	107.2	113.2	95.3	93.0	91.7	94.0	100.6	105.3
Farm-retail spread (1982-84=100)	166.1	170.3	174.3	182.6	189.1	189.7	191.1	189.2	187.3	185.5
Farm value-retail cost (%)	34.4	33.3	36.2	36.4	31.7	31.1	30.7	31.4	33.1	34.3
Poultry										
Retail cost (1982-84=100)	141.5	143.5	152.4	157.3	156.7	157.9	155.6	156.8	155.6	157.4
Farm value (1982-84=100)	114.6	113.7	126.2	132.8	121.5	128.6	128.4	124.2	114.4	113.4
Farm-retail spread (1982-84=100)	172.6	177.7	182.6	185.5	197.3	191.7	186.9	194.3	203.1	208.0
Farm value-retail cost (%)	43.3	42.4	44.3	45.2	41.5	43.6	44.2	42.4	39.3	38.6
Eggs										
Retail cost (1982-84=100)	114.3	120.5	142.1	145.6	128.8	132.9	137.7	136.9	135.9	145.1
Farm value (1982-84=100)	83.5	91.1	114.7	127.2	78.0	90.2	85.6	99.0	91.4	121.9
Farm-retail spread (1982-84=100)	169.4	173.2	191.4	178.7	220.0	209.6	231.3	205.0	215.8	186.9
Farm value-retail cost (%)	47.0	48.6	51.9	56.1	38.9	43.6	39.9	46.5	43.2	54.0
Cereal and bakery products										
Retail cost (1982-84=100)	164.2	167.5	174.0	175.4	178.2	178.3	178.6	178.1	178.4	178.0
Farm value (1982-84=100)	102.6	102.6	102.6	113.8	107.1	100.6	104.1	106.3	103.8	102.7
Farm-retail spread (1982-84=100)	171.5	176.5	183.9	184.0	188.1	189.1	189.0	188.1	188.8	188.5
Farm value-retail cost (%)	7.7	7.5	7.2	7.9	7.4	6.9	7.1	7.3	7.1	7.1
Fresh fruit										
Retail cost (1982-84=100)	208.8	226.9	243.0	251.7	236.1	237.8	246.6	255.6	254.0	243.3
Farm value (1982-84=100)	119.4	136.2	151.7	158.1	125.3	121.9	139.0	147.2	137.1	140.6
Farm-retail spread (1982-84=100)	250.1	268.7	285.2	294.9	287.3	291.3	296.3	305.6	307.9	290.7
Farm value-retail cost (%)	18.1	19.0	19.7	19.8	16.8	16.2	17.8	18.2	17.1	18.3
Fresh vegetables										
Retail cost (1982-84=100)	172.3	193.1	189.2	187.7	189.1	190.3	192.3	189.5	192.8	205.2
Farm value (1982-84=100)	121.1	130.1	113.3	107.0	115.1	118.9	135.2	117.7	113.0	131.2
Farm-retail spread (1982-84=100)	198.6	225.5	228.3	229.2	227.2	227.0	221.7	226.4	233.8	243.2
Farm value-retail cost (%)	23.9	22.9	20.3	19.4	20.7	21.2	23.9	21.1	19.9	21.7
Processed fruits and vegetables										
Retail cost (1982-84=100)	134.5	137.5	144.4	146.3	148.3	148.8	148.7	147.6	147.2	146.9
Farm value (1982-84=100)	112.5	119.2	117.2	120.0	116.4	115.8	115.0	114.6	113.1	115.0
Farm-retail spread (1982-84=100)	141.3	143.2	152.9	154.5	158.2	159.1	159.2	157.9	157.5	156.8
Farm value-retail cost (%)	19.9	20.6	19.3	19.5	18.7	18.5	18.4	18.5	18.4	18.6
Fats and oils										
Retail cost (1982-84=100)	133.5	137.3	140.5	140.8	141.6	141.4	141.4	142.0	141.7	140.4
Farm value (1982-84=100)	125.5	121.3	112.3	111.2	110.0	108.7	111.5	108.0	105.2	104.8
Farm-retail spread (1982-84=100)	136.5	143.1	150.9	151.8	154.3	154.8	153.2	153.9	154.7	154.9
Farm value-retail cost (%)	25.3	23.8	21.5	21.2	20.8	20.5	21.1	20.5	20.0	19.9

See footnotes at end of table.

**Table 8—Farm-Retail Price Spreads (continued)**

	Annual			1997						1998
	1994	1995	1996	Jan	Aug	Sep	Oct	Nov	Dec	Jan
Beef, All Fresh Retail Price (cts/lb)	259.4	252.4	253.7	256.1	254.6	254.3	254.0	253.4	254.2	252.2
Beef, Choice										
Retail price (cents/lb.) <sup>2</sup>	284.4	280.2	279.5	281.7	281.0	283.0	279.0	278.0	280.9	275.3
Wholesale value (cents) <sup>3</sup>	163.9	158.1	158.2	155.9	161.2	159.4	158.7	160.2	155.6	154.2
Net farm value (cents) <sup>4</sup>	138.4	134.9	137.2	134.2	138.0	137.8	138.2	139.5	136.5	135.8
Farm-retail spread (cents)	147.2	145.3	142.3	147.5	143.0	145.2	140.8	138.5	144.4	139.5
Wholesale-retail (cents) <sup>5</sup>	120.2	122.1	121.3	125.8	119.8	123.6	120.3	117.8	125.3	121.1
Farm-wholesale (cents) <sup>6</sup>	27.0	23.2	21.0	21.7	23.2	21.6	20.5	20.7	19.1	18.4
Farm value-retail price (%)	49.0	48.0	49.0	48.0	49.0	49.0	50.0	50.0	49.0	49.0
Pork										
Retail price (cents/lb.) <sup>2</sup>	194.8	220.9	231.5	232.7	236.0	234.7	234.9	231.3	226.8	234.8
Wholesale value (cents) <sup>3</sup>	98.8	117.2	117.1	119.6	123.3	117.4	110.5	107.9	101.5	96.2
Net farm value (cents) <sup>4</sup>	66.7	84.6	81.1	84.4	85.1	78.3	73.2	69.9	62.1	57.4
Farm-retail spread (cents)	128.1	136.3	150.4	148.3	150.9	156.4	161.7	161.4	164.7	177.4
Wholesale-retail (cents) <sup>5</sup>	96.0	103.7	114.4	113.1	112.7	117.3	124.4	123.4	125.3	138.6
Farm-wholesale (cents) <sup>6</sup>	32.1	32.6	36.0	35.2	38.2	39.1	37.3	38.0	39.4	38.8
Farm value-retail price (%)	34.0	38.0	35.0	36.0	36.0	33.0	31.0	30.0	27.0	24.0

1. Retail costs are based on CPI-U of retail prices for domestically produced farm foods, published monthly by the Bureau of Labor Statistics (BLS). Farm value is the payment for the quantity of farm equivalent to the retail unit, less allowance for by-product. Farm values are based on prices at first point of sale, and may include marketing charges such as grading and packing for some commodities. The farm-retail spread, the difference between the retail price and farm value, represents charges for assembling, processing, transporting, distributing. 2. Weighted-average price of retail cuts from pork and choice yield grade 3 beef. Prices from BLS. 3. Value of wholesale (boxed beef) and wholesale cuts (pork) equivalent to 1 lb. of retail cuts adjusted for transportation costs and by-product values. 4. Market value to producer for live animal equivalent to 1 lb. of retail cuts, minus value of by-products. 5. Charges for retailing and other marketing services such as wholesaling, and in-city transportation. 6. Charges for livestock marketing, processing, and transportation.

Information contact: Veronica Jones (202) 694-5387, Larry Duewer (202) 694-5172

**Table 9—Price Indexes of Food Marketing Costs**

	Annual			1996				1997			
	1994	1995	1996	II	III	IV	I	II	III P	IV P	
	1987=100*										
Labor—hourly earnings and benefits	455.2	459.7	474.3	474.3	459.1	465.3	469.3	473.0	474.6	480.2	
Processing	472.5	474.7	486.0	486.0	474.7	480.2	481.4	484.9	487.1	490.5	
Wholesaling	502.2	516.0	536.2	536.2	518.3	520.5	526.2	534.1	538.9	545.4	
Retailing	417.1	419.9	435.2	435.2	417.3	426.1	432.1	434.1	433.6	441.1	
Packaging and containers	415.7	399.8	390.3	390.3	397.0	393.1	392.1	388.7	387.6	392.9	
Paperboard boxes and containers	392.1	363.8	341.9	341.9	352.1	348.9	347.2	335.4	334.7	350.3	
Metal cans	504.9	498.3	491.0	491.0	502.8	481.8	489.4	496.1	490.8	487.9	
Paper bags and related products	457.8	437.8	441.9	441.9	438.2	443.3	443.8	441.6	439.5	442.5	
Plastic films and bottles	330.6	326.5	326.6	326.6	328.9	331.9	326.6	325.3	326.9	327.5	
Glass containers	463.3	460.5	447.4	447.4	460.3	459.3	449.3	446.9	446.6	446.6	
Metal foil	263.1	235.7	233.4	233.4	230.8	229.9	228.2	232.0	237.2	236.4	
Transportation services	436.6	429.8	430.0	430.0	428.8	430.2	431.0	430.6	429.0	429.4	
Advertising	539.1	580.1	609.4	609.4	580.6	582.8	608.1	608.7	609.3	611.6	
Fuel and power	633.7	670.7	668.5	668.5	678.0	699.2	689.5	657.4	658.1	669.0	
Electric	511.3	501.3	499.2	499.2	521.0	492.6	488.5	499.0	517.7	491.5	
Petroleum	559.7	666.8	616.7	616.7	658.9	745.5	672.8	609.7	574.8	609.6	
Natural gas	1,091.7	1,136.7	1,214.0	1,214.0	1,136.7	1,180.9	1,261.1	1,165.7	1,179.7	1,249.4	
Communications, water and sewage	284.9	296.8	302.8	302.8	299.1	299.1	301.1	302.2	303.5	304.2	
Rent	269.0	268.2	265.6	265.6	268.6	268.3	266.6	265.6	265.1	265.1	
Maintenance and repair	486.1	499.6	514.9	514.9	501.4	506.2	509.6	513.0	517.3	519.7	
Business services	491.0	501.7	512.3	512.3	503.3	506.6	509.5	511.7	513.9	514.1	
Supplies	342.7	338.3	337.8	337.8	338.2	339.0	338.8	337.0	337.5	337.9	
Property taxes and insurance	546.8	564.3	580.1	580.1	566.5	570.4	573.6	577.3	582.2	587.3	
Interest, short-term	113.5	103.9	108.9	108.9	107.5	104.2	105.3	111.2	108.8	110.1	
Total marketing cost index	444.8	452.1	459.9	459.9	451.9	455.6	458.6	458.4	459.1	463.4	

P = Preliminary. \* Indexes measure changes in employee earnings and benefits and in prices of supplies used in processing, wholesaling, and retailing U.S. farm foods purchased for at-home consumption.

Information contact: Veronica Jones (202) 694-5387.

## Livestock & Products

**Table 10—U.S. Meat Supply & Use**

	Beg. stocks	Production <sup>1</sup>	Imports	Total supply	Exports	Ending stocks	Consumption		Conversion factor <sup>3</sup>	Primary market price <sup>4</sup>	
							Total	Per capita <sup>2</sup>			
	Million lbs. <sup>5</sup>						Lbs.			\$/cwt	
<b>Beef</b>											
1993	360	23,049	2,401	25,810	1,275	529	24,006	65	0.700	76	
1994	529	24,386	2,369	27,284	1,611	548	25,125	67	0.695	69	
1995	548	25,222	2,103	27,873	1,821	519	25,533	68	0.695	66	
1996	519	25,525	2,073	28,117	1,877	377	25,863	68	0.700	65	
1997	377	25,507	2,338	28,222	2,118	466	25,638	67	0.700	66	
1998	F	466	25,356	2,700	28,522	1,985	350	26,187	68	0.700	65-70
<b>Pork</b>											
1993	385	17,088	740	18,213	446	359	17,408	52	0.776	46	
1994	359	17,849	743	18,798	549	438	17,811	53	0.776	40	
1995	438	17,849	664	18,951	787	396	17,768	52	0.776	42	
1996	396	17,117	618	18,131	970	366	16,795	49	0.776	53	
1997	366	17,278	627	18,271	1,040	406	16,825	49	0.776	51	
1998	F	406	18,807	575	19,788	990	435	18,363	53	0.776	38-41
<b>Veal<sup>6</sup></b>											
1993	5	285	0	290	0	4	286	1	0.83	96	
1994	4	293	0	297	0	7	290	1	0.83	87	
1995	7	319	0	326	0	7	319	1	0.83	75	
1996	7	378	0	385	0	7	378	1	0.83	59	
1997	7	335	0	342	0	8	334	1	0.83	82	
1998	F	8	271	0	279	0	6	273	1	0.83	86
<b>Lamb and mutton</b>											
1993	8	337	53	398	8	8	381	2	0.89	66	
1994	8	308	49	365	9	11	345	1	0.89	67	
1995	11	287	64	362	6	8	348	1	0.89	76	
1996	8	268	73	349	6	9	334	1	0.89	85	
1997	9	261	80	350	6	14	330	1	0.89	88	
1998	F	14	243	84	341	8	11	322	1	0.89	84
<b>Total red meat</b>											
1993	758	40,759	3,194	44,711	1,730	900	42,081	120	--	--	
1994	900	42,683	3,161	46,744	2,169	1,004	43,571	122	--	--	
1995	1,004	43,677	2,831	47,512	2,614	930	43,968	122	--	--	
1996	930	43,288	2,764	46,982	2,853	759	43,370	120	--	--	
1997	759	43,381	3,045	47,185	3,164	894	43,127	118	--	--	
1998	F	894	44,677	3,359	48,930	2,983	802	45,145	122	--	
¢/lb											
<b>Broilers</b>											
1993	368	22,015	1	22,384	1,966	358	20,059	68.0	0.881	55	
1994	358	23,666	1	24,025	2,876	458	20,690	70.0	0.875	56	
1995	458	24,827	1	25,287	3,894	560	20,832	69	0.869	56	
1996	560	26,124	4	26,688	4,420	641	21,626	71	0.869	61	
1997	641	26,971	5	27,617	4,671	605	22,341	72	0.869	59	
1998	F	605	28,259	3	28,867	4,750	650	23,467	75	0.869	54-58
<b>Mature chicken</b>											
1993	10	515	0	525	56	8	461	2.0	1.0	--	
1994	8	509	0	517	90	14	413	2.0	1.0	--	
1995	14	496	3	513	99	7	406	2	1.0	--	
1996	7	491	0	498	265	6	228	1	1.0	--	
1997	6	509	0	515	388	9	118	0	1.0	--	
1998	F	9	530	0	538	390	5	143	1	1.0	--
<b>Turkeys</b>											
1993	272	4,798	0	5,069	244	249	4,577	18	1.0	63	
1994	249	4,937	0	5,187	280	254	4,652	18	1.0	66	
1995	254	5,069	2	5,326	348	271	4,706	18	1.0	66	
1996	271	5,401	1	5,673	438	328	4,906	19	1.0	66	
1997	328	5,408	1	5,737	589	417	4,731	18	1.0	65	
1998	F	417	5,345	1	5,763	610	375	4,777	18	1.0	59-63
<b>Total poultry</b>											
1993	650	27,328	1	27,978	2,266	615	25,097	88	--	--	
1994	615	29,113	1	29,728	3,246	727	25,754	89	--	--	
1995	727	30,393	6	31,125	4,342	839	25,944	88	--	--	
1996	839	32,015	5	32,859	5,123	975	26,760	90	--	--	
1997	975	32,888	6	33,869	5,648	1,031	27,189	91	--	--	
1998	F	1,031	34,133	4	35,168	5,750	1,030	28,387	94	--	--
<b>Red meat and poultry</b>											
1993	1,408	68,087	3,195	72,690	3,996	1,515	67,178	208	--	--	
1994	1,515	71,796	3,162	76,637	5,415	1,731	69,326	211	--	--	
1995	1,731	74,070	2,837	78,637	6,956	1,769	69,912	210	--	--	
1996	1,769	75,303	2,769	79,841	7,976	1,734	70,130	210	--	--	
1997	1,734	76,269	3,051	81,054	8,812	1,925	70,316	208	--	--	
1998	F	1,925	78,810	3,363	84,098	8,733	1,832	73,532	216	--	--

F = Forecast. -- = Not available. 1. Total including farm production for red meat and federally inspected plus nonfederally inspected for poultry.

2. Retail-weight basis. 3. Red Meat: Carcass to retail conversion; poultry ready-to-cook production to retail weight. 4. Dollars per cwt. for red meat; cents per pound for poultry. Beef: Medium #1, Nebraska Direct 1,100-1,300 lb.; pork: barrows and gilts, Iowa, Southern Minnesota; veal: farm price of calves; lamb and mutton: choice slaughter lambs, San Angelo; broilers: wholesale 12-city average; turkeys: wholesale NY 8-16 lb. young hens. 5. Carcass weight for red meats and certified ready-to-cook for poultry. 6. Beginning in 1989, veal trade is no longer reported separately.

Information contact: LaVerne Williams (202) 694-5190

**Table 11—U.S. Egg Supply & Use**

	Beg. stocks	Production	Imports	Total supply	Exports	Hatching use	Ending stocks	Consumption		Primary market price*	
								Total	Per capita		
Million doz.										No.	Cts./doz.
1991	11.6	5,800.6	2.3	5,814.5	154.5	708.6	13.0	4,938.5	234.6	77.5	
1992	13.0	5,905.0	4.3	5,922.3	157.0	732.0	13.5	5,019.8	235.9	65.4	
1993	13.5	6,005.8	4.7	6,023.9	158.9	769.6	10.7	5,084.6	236.4	72.5	
1994	10.7	6,177.6	3.7	6,192.0	187.6	805.4	14.9	5,184.1	238.7	67.3	
1995	14.9	6,215.6	4.1	6,234.6	208.9	847.2	11.2	5,167.3	235.7	72.9	
1996	11.2	6,371.3	5.4	6,387.9	253.1	864.7	8.5	5,261.5	237.8	88.2	
1997	P 8.5	6,459.6	6.5	6,474.6	224.6	891.8	7.3	5,351.0	239.6	81.2	
1998	F 7.3	6,625.0	4.0	6,636.3	235.0	930.0	10.0	5,461.3	242.3	76.5	

F = Forecast. P = Preliminary. \* Cartoned grade A large eggs, New York.

Information contact: LaVerne Williams (202) 694-5190.

**Table 12—U.S. Milk Supply & Use<sup>1</sup>**

	Production	Commercial			Imports	Total commercial supply	CCC net removals	Commercial		All milk price <sup>1</sup>	CCC net removals	
		Farm use	Farm marketings	Beg. stocks				Ending stocks	Disappearance		Skim solids basis	Total solids basis <sup>2</sup>
Million doz.										\$/cwt	Billion lbs.	
1990	147.7	2.0	145.7	4.1	2.7	152.5	9.0	5.1	138.3	13.7	1.6	4.6
1991	147.7	2.0	145.7	5.1	2.6	153.4	10.4	4.5	138.6	12.2	3.9	6.5
1992	150.9	1.9	149.0	4.5	2.5	155.9	9.9	4.7	141.3	13.1	2.0	5.2
1993	150.6	1.8	148.8	4.7	2.8	156.2	6.7	4.6	145.0	12.8	3.9	5.0
1994	153.7	1.7	152.0	4.6	2.9	159.4	4.8	4.3	150.3	13.0	3.7	4.2
1995	155.4	1.6	153.9	4.3	2.9	161.1	2.1	4.1	154.9	12.7	4.4	3.5
1996	154.8	1.5	153.3	4.1	2.9	160.4	0.1	4.7	155.6	14.7	0.8	0.5
1997	F 156.6	1.4	155.2	4.7	2.7	162.6	1.3	4.8	156.5	13.4	3.6	2.7
1998	F 157.1	1.3	155.8	4.8	3.3	163.9	0.6	4.8	158.5	13.7	2.3	1.6

F = Forecast. 1. Delivered to plants and dealers; does not reflect deductions. 2. Arbitrarily weighted average of milkfat basis (40 percent) and skim solids basis (60 percent).

Information contact: Jim Miller (202) 694-5184.

**Table 13—Poultry & Eggs**

	Annual			1996		1997				
	1995	1996	1997	Dec	Jul	Aug	Sep	Oct	Nov	Dec
<b>Broilers</b>										
Federally inspected slaughter certified (mil. lb.)	25,020.8	25,020.8	25,020.8	2,099.8	2,303.0	2,276.8	2,281.1	2,496.8	2,009.8	2,252.9
Wholesale price, 12-city (cents/lb.)	56.2	61.2	58.8	63.5	63.0	63.2	59.9	55.4	54.6	52.2
Price of grower feed (\$/ton) <sup>1</sup>	135.1	175.5	157.8	154.0	157.0	154.0	145.0	143.0	149.0	146.0
Broiler-feed price ratio <sup>2</sup>	5.1	4.4	4.7	5.4	5.1	5.2	5.3	4.9	4.6	4.4
Stocks beginning of period (mil. lb.)	458.4	560.1	641.3	566.6	703.3	655.8	559.0	547.3	579.3	604.0
Broiler-type chicks hatched (mil.) <sup>3</sup>	7,932.4	8,076.9	8,306.5	695.0	709.1	709.3	683.2	683.1	648.1	711.6
<b>Turkeys</b>										
Federally inspected slaughter certified (mil. lb.)	5,128.8	5,465.6	5,473.6	410.9	491.8	456.3	462.6	513.7	453.5	456.1
Wholesale price, Eastern U.S. 8-16 lb. young hens (cents/lb.)	66.4	66.5	64.9	70.0	68.6	68.1	67.9	67.3	70.1	62.2
Price of turkey grower feed (\$/ton) <sup>1</sup>	130.1	166.1	142.5	142.0	137.0	138.0	135.0	132.0	134.0	133.0
Turkey-feed price ratio <sup>2</sup>	6.3	5.3	5.6	6.1	6.0	5.9	6.1	6.1	6.3	5.8
Stocks beginning of period (mil. lb.)	254.4	271.3	328.0	347.8	667.7	713.8	742.0	771.5	736.6	438.6
Poults placed in U.S. (mil.) <sup>3</sup>	321.7	327.2	321.5	27.1	30.1	26.3	23.9	24.6	23.3	25.7
<b>Eggs</b>										
Farm production (mil.)	74,587.0	76,456.0	77,515.0	6,698.0	6,443.0	6,483.0	6,350.0	6,646.0	6,549.0	6,812.0
Average number of layers (mil.)	294.0	298.0	303.0	305.0	299.0	300.0	303.0	306.0	309.0	311.0
Rate of lay (eggs per layer on farms)	253.8	256.2	255.2	22.0	21.6	21.6	21.0	21.7	21.2	21.9
Cartoned price, New York, grade A large (cents/doz.) <sup>4</sup>	72.9	88.2	81.2	100.9	81.9	74.7	82.4	77.0	97.4	90.3
Price of laying feed (\$/ton) <sup>1</sup>	149.7	184.4	159.8	162.0	160.0	163.0	150.0	151.0	141.0	143.0
Egg-feed price ratio <sup>2</sup>	8.6	8.5	8.8	10.8	8.2	7.8	9.3	8.7	11.4	11.0
Stocks, first of month										
Frozen (mil. doz.)	14.8	10.5	7.7	7.9	6.5	7.0	8.4	8.3	8.3	7.8
Replacement chicks hatched (mil.)	397.0	407.0	422.0	33.0	34.0	32.9	35.8	35.2	27.8	35.6

1. Calculated from price ratios that were revised February 1995. 2. Pounds of feed equal in value to 1 dozen eggs or 1 lb. of broiler or turkey liveweight (revised February 1995). 3. Placement of broiler chicks is currently reported for 15 States only; henceforth, hatch of broiler-type chicks will be used as a substitute. 4. Price of cartoned eggs to volume buyers for delivery to retailers.

Information contact: Laverne Williams (202) 694-5190.

**Table 14—Dairy**

	Annual			1996			1997			
	1995	1996	1997	Dec	Jul	Aug	Sep	Oct	Nov	Dec
Milk prices, Minnesota-Wisconsin, 3.5% fat (\$/cwt) <sup>1</sup>	11.83	13.39	12.05	11.34	10.86	12.07	12.79	12.83	12.96	13.29
Wholesale prices										
Butter, grade A Chi. (cents/lb.)	75.6	100.3	107.1	71.9	102.7	102.5	101.6	135.3	148.8	120.1
Am. cheese, Wis. assembly pt. (cents/lb.)	132.8	149.1	132.4	126.0	123.3	137.6	141.4	142.4	143.8	146.1
Nonfat dry milk (cents/lb.) <sup>2</sup>	108.6	122.2	110.0	120.6	107.7	107.2	107.1	106.9	107.1	107.4
USDA net removals <sup>3</sup>										
Total milk equiv. (mil. lb.) <sup>4</sup>	2,106.1	86.9	1,277.6	10.1	133.8	122.4	129.4	141.2	183.0	183.4
Butter (mil. lb.)	78.5	0.1	47.0	0.1	5.1	4.6	5.1	5.3	7.1	7.1
Am. cheese (mil. lb.)	6.1	4.6	11.3	0.4	1.6	0.6	0.4	1.2	0.8	0.5
Nonfat dry milk (Mil. lb.)	343.8	57.2	297.2	5.7	23.2	35.1	34.7	24.9	31.9	32.2
Milk										
Milk prod. 22 states (mil. lb.)	131,780	131,909	133,861	11,046	11,437	11,213	10,671	10,977	10,591	11,118
Milk per cow (lb.)	16,762	16,783	17,252	1,407	1,473	1,446	1,377	1,416	1,369	1,438
Number of milk cows (1,000)	7,862	7,860	7,759	7,853	7,765	7,757	7,752	7,750	7,737	7,732
U.S. milk production (mil. lb.)	155,424	154,825	156,603	6/ 12,958	6/ 13,324	6/ 13,058	6/ 12,423	6/ 12,818	6/ 12,363	6/ 12,973
Stocks, beginning										
Total (mil. lb.)	5,760	4,168	4,714	4,694	6,799	6,889	6,393	5,817	5,074	4,712
Commercial (mil. lb.)	4,263	4,099	4,704	4,684	6,779	6,858	6,361	5,799	5,059	4,694
Government (mil. lb.)	1,497	69	10	9	21	31	32	19	16	19
Imports, total (mil. lb.)	2,936	2,911	--	363	206	228	228	266	275	--
Commercial disappearance (mil. lb.)	154,835	155,556	--	13,165	13,200	13,544	12,971	13,565	12,707	--
Butter										
Production (mil. lb.)	1,264.5	1,174.5	1,158.7	111.3	81.9	70.3	79.7	83.1	88.7	116.3
Stocks, beginning (mil. lb.)	79.4	18.6	13.7	17.6	17.6	62.8	48.7	43.9	26.6	15.4
Commercial disappearance (mil. lb.)	1,186.3	1,179.8	--	115.5	73.7	79.8	79.4	95.0	92.9	--
American cheese										
Production (mil. lb.)	3,131.4	3,280.8	3,282.8	280.4	283.9	258.7	260.6	260.1	251.6	277.2
Stocks, beginning (mil. lb.)	310.4	307.0	379.9	370.0	463.9	470.7	461.0	421.8	399.8	385.4
Commercial disappearance (mil. lb.)	3,148.5	3,230.1	--	273.6	277.8	270.9	299.8	282.4	245.4	--
Other cheese										
Production (mil. lb.)	3,785.5	3,936.7	4,068.6	343.5	331.4	342.3	345.1	359.5	350.6	352.0
Stocks, beginning (mil. lb.)	126.8	105.3	107.3	110.5	140.4	135.9	122.8	109.6	90.2	68.3
Commercial disappearance (mil. lb.)	4,125.6	4,243.0	--	385.1	358.9	379.3	383.5	408.5	401.3	--
Nonfat dry milk										
Production (mil. lb.)	1,233.0	1,061.8	1,207.6	101.5	112.0	90.8	77.3	72.5	74.6	101.7
Stocks, beginning (mil. lb.)	131.2	85.0	71.4	49.6	173.4	163.8	161.8	141.9	124.9	116.8
Commercial disappearance (mil. lb.)	923.7	1,009.0	--	74.2	101.7	60.5	65.6	71.0	59.2	--
Frozen dessert										
Production (mil. gal.) <sup>5</sup>	1,229.6	1,240.9	1,230.9	77.5	127.1	112.8	99.8	97.0	78.4	78.7
	Annual			1996			1997			
	1995	1996	1997	II	III	IV	I P	II P	III P	IV P
Milk production (mil. lb.)	155,424	154,825	156,603	39,909	37,844	38,051	38,961	40,683	38,805	38,154
Milk per cow (lb.)	16,433	16,466	16,916	4,241	4,028	4,057	4,192	4,384	4,195	4,145
No. of milk cows (1,000)	9,458	9,403	9,258	9,410	9,396	9,379	9,295	9,280	9,251	9,205
Milk-feed price ratio	1.63	1.60	1.54	1.51	1.64	1.67	1.53	1.48	1.47	1.70
Returns over concentrate costs (\$/cwt milk)	9.50	10.98	9.80	10.40	11.95	11.55	9.80	9.30	9.10	10.90

P = Preliminary. -- = Not available. 1. Manufacturing grade milk. 2. Prices paid f.o.b. Central States production area. 3. Includes products exported through the Dairy Export Incentive Program (DEIP). 4. Milk equivalent, fat basis. 5. Hard ice cream, ice milk, and hard sherbet. 6. Estimated.

Information contact: Laverne Williams (202) 694-5190.

**Table 15—Wool**

	Annual			1996			1997			
	1995	1996	1997	II	III	IV	I	II	III	IV
U.S. wool price (cents/lb.) <sup>1</sup>	258	193	238	192	192	191	196	244	255	258
Imported wool price (cents/lb.) <sup>2</sup>	249	196	206	197	192	191	196	210	213	204
U.S. mill consumption, scoured										
Apparel wool (1,000 lb.)	129,299	110,986	--	30,816	23,472	23,092	27,461	28,158	25,546	--
Carpet wool (1,000 lb.)	12,667	12,311	--	2,660	3,393	3,111	3,417	3,324	3,367	--

-- = Not available. 1. Wool price delivered at U.S. mills, clean basis, Graded Territory 64's (20.60-22.04 microns) staple 2-3/4" and up. 2. Wool price, Charleston, SC warehouse, clean basis, Australian 60/62's, type 64A (24 micron). Duty since 1982 has been 10.0 cents.

Information contact: Bob Skinner (202) 694-5313.

Table 16—Meat Animals

	Annual			1996			1997			
	1995	1996	1997	Dec	Jul	Aug	Sep	Oct	Nov	Dec
Cattle on feed (7 states, 1000+ head capacity)										
Number on feed (1,000 head) <sup>1</sup>	8,031	8,667	8,943	8,685	7,679	8,770	7,850	8,558	9,390	9,003
Placed on feed (1,000 head)	20,034	19,564	20,765	1,446	1,751	2,429	2,278	2,454	1,826	1,423
Marketings (1,000 head)	18,753	18,636	19,552	1,412	1,852	2,033	1,528	1,545	1,429	1,415
Other disappearance (1,000 head)	674	652	701	52	42	45	42	77	69	68
Market prices (\$/cwt)										
Slaughter cattle										
Choice steers, 1,100-1,300 lb.										
Texas	66.69	65.06	65.99	66.30	63.80	65.19	66.04	66.93	67.66	65.91
Neb. direct	66.26	65.05	66.32	67.46	64.77	65.96	66.22	67.08	67.21	65.53
Boning utility cows, Sioux Falls	35.58	30.33	34.27	25.74	37.75	35.44	32.41	31.71	32.20	34.50
Feeder steers										
Medium no. 1, Oklahoma City										
600-650 lb.	70.49	61.31	81.34	66.04	89.43	85.00	88.02	79.55	80.62	83.28
750-800 lb.	68.03	61.08	76.19	67.08	82.21	80.53	78.57	76.84	79.11	81.00
Slaughter hogs										
Barrows and gilts, 230-250 lb.										
Iowa, S. Minn.	42.35	53.39	51.36	54.83	58.75	54.90	49.99	46.62	44.54	39.85
6 markets	41.99	53.42	51.30	55.31	58.80	54.06	49.42	46.17	44.40	40.50
Slaughter sheep and lambs										
Lambs, Choice, San Angelo										
Ewes, Good, San Angelo	75.86	85.27	87.95	88.88	79.69	89.50	85.45	82.75	80.33	83.52
33.91	39.05	49.33	46.31	36.25	51.38	44.20	45.44	49.67	48.42	
Feeder lambs										
Choice, San Angelo	81.08	94.88	104.43	106.25	98.00	100.94	98.10	96.31	94.00	97.17
Wholesale meat prices, Midwest										
Boxed beef cut-out value										
Choice, 700-800 lb.										
106.09	102.01	102.75	106.55	102.43	104.49	102.58	102.86	103.74	100.43	
Select, 700-800 lb.										
98.45	95.34	96.15	94.81	96.36	96.39	94.62	93.27	94.66	93.39	
Canner and cutter cow beef										
68.67	58.18	64.50	52.54	70.09	68.46	63.89	59.76	59.67	62.13	
Pork cutout, No. 2										
59.98	72.39	72.06	74.51	78.21	76.50	70.84	66.12	65.49	57.76	
Pork loins, 14-18 lb.										
107.74	118.49	111.57	120.45	112.53	119.28	112.07	99.68	85.99	79.44	
Pork bellies, 12-14 lb.										
43.04	69.97	73.58	70.07	86.70	85.43	72.25	57.97	54.50	47.52	
Hams, skinned, 20-26 lb.										
55.95	68.48	63.38	65.90	68.48	64.25	62.70	59.89	65.64	55.66	
All fresh beef retail price	259.42	252.44	253.72	256.25	251.09	254.59	254.34	254.02	253.35	254.19
Commercial slaughter (1,000 head) <sup>2</sup>										
Cattle										
35639	36583	36351	2876	3183	3131	2971	3228	2770	2877	
Steers										
18274	17819	17554	1284	1593	1581	1438	1456	1263	1345	
Heifers										
10399	10756	11538	888	1012	966	962	1090	869	873	
Cows										
6281	7274	6563	654	515	520	524	630	585	609	
Bull and stags										
686	728	696	50	63	65	61	64	53	50	
Calves										
1430	1768	1574	153	134	127	136	141	122	145	
Sheep and lambs										
4560	4184	3911	349	306	300	323	335	314	349	
Hogs										
96326	92394	91566	7622	7309	7337	8020	8780	7748	8624	
Barrows and gilts										
91683	88224	88253	7319	6989	7030	7715	8115	7433	8289	
Commercial production (mil. lb.)										
Beef										
25117	25421	25401	1950	2257	2233	2127	2302	1934	2024	
Veal										
307	368	323	31	27	26	28	28	23	26	
Lamb and mutton										
284	265	257	22	20	19	21	22	20	24	
Pork										
17810	17084	17245	1429	1353	1351	1489	1653	1475	1641	
Hogs and pigs (U.S.) <sup>3</sup>										
Inventory (1,000 head) <sup>1</sup>										
59,990	58,264	56,141	57,200	58,200	56,171	55,900	58,150	60,384	59,920	
Breeding (1,000 head) <sup>1</sup>										
7,060	6,839	6,667	6,870	6,770	6,655	6,800	6,950	6,943	6,979	
Market (1,000 head) <sup>1</sup>										
52,930	51,425	49,474	50,330	51,430	49,516	49,100	51,200	53,441	52,941	
Farrowings (1,000 head)										
11,847	11,187	11,440	2,761	2,717	2,677	2,952	2,899	2,931	2,914	
Pig crop (1,000 head)										
98,516	94,956	98,972	23,667	23,159	22,990	25,460	25,220	25,302	--	
Cattle on Feed, 7 states (1,000 head) <sup>4</sup>										
Steers and Steer Calves										
5,218	5,588	5410	4,177	4,656	5,410	5,417	4,615	5,147	5803	
Heifers and Heifer Calves										
2,785	3,005	3455	2,364	2,798	3,455	3,431	3,026	3,383	3615	
Cows and Bulls										
30	74	78	37	32	78	56	38	28	37	

-- = Not available. 1. Beginning of period. 2. Classes estimated. 3. Quarters are Dec. of preceding year to Feb. (1), Mar.-May (II), June-Aug. (III), and Sept.-Nov. (IV). 4. Beginning of period. The 7 states include AZ, CA, CO, IA, KS, NE, and TX. \*Intentions

Information contact: Leland Southard (202) 501-8553

## Crops &amp; Products

Table 17—Supply & Utilization<sup>1,2</sup>

	Area			Yield	Production	Total Supply <sup>4</sup>	Feed & residual	Other domestic use	Exports	Total Use	Ending stocks	Farm price <sup>7</sup>
	Set aside <sup>3</sup>	Planted	Harvested									
	<i>Mil. acres</i>		<i>Bu./acre</i>					<i>Mil. bu.</i>				<i>\$/bu.</i>
Wheat												
1992/93	7.3	72.2	62.8	39.3	2467	3012	194	934	1354	2481	531	3.24
1993/94	5.7	72.2	62.7	38.2	2396	3036	272	968	1228	2467	568	3.26
1994/95	5.2	70.3	61.8	37.6	2321	2981	344	942	1188	2475	507	3.45
1995/96*	6.1	69.1	60.9	35.8	2183	2757	153	987	1241	2381	376	4.55
1996/97*	--	75.6	62.9	36.3	2285	2753	314	995	1001	2310	444	4.30
1997/98*	--	71.0	63.6	39.7	2527	3060	300	1006	1075	2381	679	3.40-3.50
	<i>Mil. acres</i>		<i>lb./acre</i>					<i>Mil. cwt (rough equiv)</i>				<i>\$/cwt</i>
Rice <sup>6</sup>												
1992/93	0.4	3.2	3.1	5,736.2	179.7	213.2	--	6/ 96.7	77.0	173.7	39.4	5.9
1993/94	0.7	2.9	2.8	5,510.4	156.1	202.5	--	6/ 101.4	75.3	176.7	25.8	8.0
1994/95	0.3	3.4	3.3	5,964.4	197.8	230.9	--	6/ 100.7	98.9	199.6	31.3	6.8
1995/96*	0.5	3.1	3.1	5,621.4	173.9	212.6	--	6/ 104.6	83.0	187.6	25.0	9.2
1996/97*	--	2.8	2.8	6,120.8	171.3	206.3	--	6/ 102.8	76.4	179.2	27.1	9.9
1997/98*	--	3.1	3.0	5,896.4	178.9	215.0	--	6/ 107.9	79.0	186.9	28.1	9.25-10.25
	<i>Mil. acres</i>		<i>Bu./acre</i>					<i>Mil. bu.</i>				<i>\$/bu.</i>
Corn												
1992/93	5.3	79.3	72.1	131.5	9477	10584	5252	1556	1663	8471	2113	2.1
1993/94	10.9	73.2	62.9	100.7	6336	8470	4683	1609	1328	7620	850	2.5
1994/95	2.4	79.2	72.9	138.6	10103	10962	5523	1704	2177	9405	1558	2.3
1995/96*	7.7	71.2	65.0	113.5	7374	8948	4682	1612	2228	8522	426	3.2
1996/97*	--	79.5	73.1	127.1	9293	9733	5362	1692	1795	8849	883	2.7
1997/98*	--	80.2	73.7	127.0	9366	10259	5850	1815	1750	9415	844	2.45-2.75
	<i>Mil. acres</i>		<i>Bu./acre</i>					<i>Mil. bu.</i>				<i>\$/bu.</i>
Sorghum												
1992/93	2.0	13.2	12.1	72.6	875	928	471	5	277	753	175	1.9
1993/94	2.3	9.9	8.9	59.9	534	709	456	4	202	662	48	2.3
1994/95	1.6	9.8	8.9	72.8	649	697	400	3	223	625	72	2.1
1995/96*	1.7	9.5	8.3	55.6	460	532	305	11	198	514	18	3.2
1996/97*	--	13.2	11.9	67.5	803	821	529	40	205	774	47	2.3
1997/98*	--	10.1	9.4	69.5	653	701	425	35	195	655	46	2.10-2.40
	<i>Mil. acres</i>		<i>Bu./acre</i>					<i>Mil. bu.</i>				<i>\$/bu.</i>
Barley												
1992/93	2.3	7.8	7.3	62.5	455	595	191	173	80	444	151	2.0
1993/94	2.5	7.8	6.8	58.9	398	621	244	172	66	482	139	2.0
1994/95	2.7	7.2	6.7	56.2	375	580	228	173	66	467	113	2.0
1995/96*	2.9	6.7	6.3	57.3	360	513	179	172	62	413	100	2.9
1996/97*	--	7.1	6.8	58.5	396	532	220	172	31	423	109	2.7
1997/98*	--	6.9	6.4	58.3	374	519	160	172	90	422	97	2.35-2.45
	<i>Mil. acres</i>		<i>Bu./acre</i>					<i>Mil. bu.</i>				<i>\$/bu.</i>
Oats												
1992/93	0.7	7.9	4.5	65.4	294	477	263	95	6	364	113	1.3
1993/94	0.8	7.9	3.8	54.4	207	427	225	93	3	321	106	1.4
1994/95	0.6	6.6	4.0	57.1	229	428	234	92	1	327	101	1.2
1995/96*	0.8	6.3	3.0	54.7	162	343	183	92	2	277	66	1.7
1996/97*	--	4.7	2.7	57.8	155	319	155	95	3	252	67	2.0
1997/98*	--	5.2	2.9	60.5	176	343	175	95	2	272	71	1.55-1.65
	<i>Mil. acres</i>		<i>Bu./acre</i>					<i>Mil. bu.</i>				<i>\$/bu.</i>
Soybeans <sup>7</sup>												
1992/93	--	59.2	58.2	37.6	2190	2471	7/ 130	1279	770	2179	292	5.6
1993/94	--	60.1	57.3	32.6	1871	2170	7/ 96	1276	589	1961	209	6.4
1994/95	--	61.7	60.9	41.4	2517	2731	7/ 153	1405	838	2396	335	5.5
1995/96*	--	62.6	61.6	35.3	2177	2516	7/ 112	1370	851	2333	183	6.7
1996/97*	--	64.2	63.4	37.6	2382	2575	7/ 126	1436	882	2443	131	7.4
1997/98*	--	70.9	69.9	39.0	2727	2863	7/ 138	1500	975	2613	250	6.10-6.90
								<i>Mil. lbs.</i>				<i>Cents/lb.</i>
Soybean Oil												
1992/93	--	--	--	--	13778	16028	--	13054	1419	14473	1555	21.4
1993/94	--	--	--	--	13951	15574	--	12941	1529	14471	1103	27.1
1994/95	--	--	--	--	15613	16733	--	12916	2680	15597	1137	27.6
1995/96*	--	--	--	--	15240	16472	--	13465	992	14457	2015	24.8
1996/97*	--	--	--	--	15743	17811	--	14247	2045	16291	1520	22.5
1997/98*	--	--	--	--	16725	18305	--	14350	2400	16750	1555	24.00-27.00
					<i>1,000 tons</i>							<i>\$/ton<sup>8</sup></i>
Soybean meal												
1992/93	--	--	--	--	30364	30687	--	24251	6232	30483	204	193.8
1993/94	--	--	--	--	30514	30788	--	25283	5356	30639	150	192.9
1994/95	--	--	--	--	33270	33483	--	26542	6717	33260	223	162.6
1995/96*	--	--	--	--	32527	32826	--	26611	6002	32613	212	236.0
1996/97*	--	--	--	--	34209	34523	--	27322	6994	34316	207	270.9
1997/98*	--	--	--	--	35443	35775	--	28250	7300	35550	225	195-220

See footnotes at end of table.

**Table 17—Supply & Utilization (continued)**

	Area			Yield	Production	Total Supply <sup>4</sup>	Feed & residual	Other domestic use	Exports	Total Use	Ending stocks	Farm price <sup>5</sup>
	Set aside <sup>3</sup>	Planted	Harvested									
	<i>Mil. acres</i>		<i>Lb./acre</i>									
Cotton <sup>9</sup>												
1992/93	1.7	13.2	11.1	700.0	16.2	19.9	--	10.3	5.2	15.5	4.7	53.7
1993/94	1.4	13.4	12.8	606.0	16.1	20.8	--	10.4	6.9	17.3	3.5	58.1
1994/95	1.7	13.7	13.3	708.0	19.7	23.2	--	11.2	9.4	20.6	2.7	72.0
1995/96*	0.3	16.9	16.0	536.0	17.9	21.0	--	10.7	7.7	18.3	2.6	10/ 75.40
1996/97*	--	14.6	12.9	707.0	18.9	22.0	--	11.1	6.9	18.1	4.0	11/ 69.30
1997/98*	--	13.8	13.3	686.0	19.0	23.0	--	11.4	7.3	18.7	4.3	--

-- = Not available or not applicable. \*March 17, 1998 Supply and Demand Estimates. 1. Marketing year beginning June 1 for wheat, barley, and oats, August 1 for cotton and rice, September 1 for soybeans, corn, and sorghum, October 1 for soybean meal and soybean oil. 2. Conversion factors: Hectare (ha.) = 2.471 acres, 1 metric ton = 2,204.622 pounds, 36.7437 bushels of wheat or soybeans, 39.3679 bushels of corn or sorghum, 45.9296 bushels of barley, 68.8944 bushels of oats, 22.046 cwt of rice, and 4.59 480-pound bales of cotton. 3. Includes diversion, acreage reduction, 50-92, & 0-92 programs. 0/92 & 50/92 set-aside includes idled acreage and acreage planted to minor oilseeds, sesame, and crambe. 4. Includes imports. 5. Marketing-year weighted average price received by farmers. Does not include an allowance for loans outstanding and Government purchases. 6. Residual included in domestic use. 7. Includes seed. 8. Simple average of 48 percent, Decatur. 9. Upland and extra-long staple. Stocks estimates based on Census Bureau data, resulting in an unaccounted difference between supply and use estimates and changes in ending stocks. 10. Weighted average for August through July. 11. Weighted average for August through March.

Information contacts: Wheat, rice and feed grains, Jenny Gonzales (202) 694-5296; soybeans, soybean products and cotton, Mae Dean Johnson (202) 594-5299.

**Table 18—Cash Prices, Selected U.S. Commodities**

	Marketing year <sup>1</sup>			1996			1997			
	1994/95	1995/96	1996/97	Nov	Jun	Jul	Aug	Sep	Oct	Nov
Wheat, no. 1 HRW, Kansas City (\$/bu.) <sup>2</sup>	3.97	5.49	4.88	4.87	4.08	3.57	3.84	3.86	3.88	3.87
Wheat, DNS, Minneapolis (\$/bu.) <sup>3</sup>	4.26	5.72	4.97	4.64	4.44	4.36	4.49	4.36	4.35	4.42
Rice, S.W. La. (\$/cwt) <sup>4</sup>	14.55	18.90	20.34	19.75	20.7	20.50	20.06	19.40	18.94	19.25
Corn, no. 2 yellow, 30 day, Chicago (\$/bu.)	2.43	3.97	2.84	2.73	2.72	2.57	2.69	2.66	2.76	2.77
Sorghum, no. 2 yellow, Kansas City (\$/cwt)	4.10	6.66	4.54	4.31	4.48	4.18	4.28	4.13	4.36	4.30
Barley, feed, Duluth (\$/bu.)	2.02	2.67	2.32	1.90	2.31	2.04	2.10	2.29	2.05	1.98
Barley, malting Minneapolis (\$/bu.)	2.75	3.69	3.18	--	2.62	1.74	2.66	2.74	2.74	--
U.S. cotton price, SLM, 1-1/16 in. (cents/lb.) <sup>5</sup>	88.10	83.00	71.60	70.10	71	71.80	71.60	70.80	69.50	68.90
Northern Europe prices cotton index (cents/lb.) <sup>6</sup>	92.70	85.60	78.70	76.20	80.8	81.50	81.10	79.50	77.60	77.10
U.S. M 1-3/32 in. (cents/lb.) <sup>7</sup>	99.70	94.70	82.90	81.80	82.5	83.70	83.90	82.50	80.50	79.80
Soybeans, no. 1 yellow, 30 day Chicago (\$/bu)	5.48	6.72	7.38	6.96	8.37	7.62	7.45	6.49	6.75	7.18
Soybean oil, crude, Decatur (cents/lb.)	27.60	24.75	22.50	21.81	22.97	21.89	22.06	22.88	24.31	25.73
Soybean meal, 48% protein, Decatur (\$/ton)	162.55	236.00	270.90	251.50	287.90	273.60	273.30	278.30	229.30	245.30

-- = no quotes. 1. Beginning June 1 for wheat and barley; Aug. 1 for rice and cotton; Sept. 1 for corn, sorghum, and soybeans; Oct. 1 for soybean meal and oil. 2. Ordinary protein. 3. 14% protein. 4. Long grain, milled basis. 5. Average spot market. 6. Liverpool Cotlook "A" Index; average of five lowest prices of 13 selected growths. 7. Cotton, Memphis territory growths.

Information contact: Wheat, rice, and feed, Jenny Gonzales (202) 694-5296; soybeans, soybean products, and cotton, Mae Dean Johnson (202) 694-5299

Table 19—Farm Programs, Price Supports, Participation, &amp; Payment Rates

	Target price	Payment rates			Effective base acres <sup>2</sup>	Program <sup>3</sup>	Flexibility contract payment rate	Acres under contract	Contract payment yields	Participation rate <sup>4</sup>
		Basic loan rate	Findley or announced loan rate <sup>1</sup>							
		\$/bu			Mil. acres	Percent of base	\$/bu.	Mil. acre	Bu/cwt	percent
Wheat										
1993/94	4.00	2.86	2.45	1.03	78.50	0/0/0	--	--	--	88
1994/95	4.00	2.72	2.58	0.61	78.10	0/0/0	--	--	--	87
1995/96	4.00	2.69	2.58	0.00	77.70	0/0/0	--	--	--	85
1996/97	--	--	2.58	--	--	--	0.874	76.4	34.70	99
1997/98 <sup>8</sup>	--	--	2.58	--	--	--	0.610	76.1	34.60	99
Rice										
		\$/cwt					\$/cwt			
1993/94	10.71	6.50	5/ 5.53	3.98	4.10	5/0/0	--	--	--	97
1994/95	10.71	6.50	5/ 5.88	3.79	4.20	0/0/0	--	--	--	95
1995/96	10.71	6.50	5/ 6.50	*3.22	4.20	5/0/0	--	--	--	95
1996/97	--	6.50	--	--	--	--	2.766	4.1	48.15	99
1997/98 <sup>8</sup>	--	6.50	--	--	--	--	2.740	4.1	48.09	99
Corn										
		\$/bu.					\$/bu.			
1993/94	2.75	1.99	1.72	0.28	81.80	10/0/0	--	--	--	76
1994/95	2.75	1.99	1.89	0.57	81.50	0/0/0	--	--	--	81
1995/96	2.75	1.94	1.89	0.00	81.80	7.5/0/0	--	--	--	82
1996/97	--	--	1.89	--	--	--	0.251	80.5	102.90	98
1997/98 <sup>8</sup>	--	--	1.89	--	--	--	0.460	80.4	102.80	98
Sorghum										
		\$/bu.					\$/bu.			
1993/94	2.61	1.89	1.63	0.25	13.50	5/0/0	--	--	--	82
1994/95	2.61	1.89	1.80	0.59	13.50	0/0/0	--	--	--	81
1995/96	2.61	1.84	1.80	0.00	13.30	0/0/0	--	--	--	77
1996/97	--	--	1.81	--	--	--	0.323	13.0	57.30	99
1997/98 <sup>8</sup>	--	--	1.76	--	--	--	0.500	13.0	57.30	99
Barley										
		\$/bu.					\$/bu.			
1993/94	2.36	1.62	1.40	0.67	10.80	0/0/0	--	--	--	83
1994/95	2.36	1.62	1.54	0.52	10.70	0/0/0	--	--	--	84
1995/96	2.36	1.58	1.54	0.00	10.70	0/0/0	--	--	--	82
1996/97	--	--	1.55	--	--	--	0.332	10.5	47.30	99
1997/98 <sup>8</sup>	--	--	1.57	--	--	--	0.250	10.5	47.20	99
Oats										
		\$/bu.					\$/bu.			
1993/94	1.45	1.02	0.88	0.11	7.10	0/0/0	--	--	--	46
1994/95	1.45	1.02	0.97	0.19	6.80	0/0/0	--	--	--	40
1995/96	1.45	1.00	0.97	0.00	6.50	0/0/0	--	--	--	44
1996/97	--	--	1.03	--	--	--	0.033	6.2	50.80	97
1997/98 <sup>8</sup>	--	--	1.11	--	--	--	0.030	6.2	50.80	97
Soybeans <sup>6</sup>										
		\$/bu.					\$/bu.			
1993/94	--	--	5.02	--	--	--	--	--	--	--
1994/95	--	--	4.92	--	--	--	--	--	--	--
1995/96	--	--	4.92	--	--	--	--	--	--	--
1996/97	--	--	4.97	--	--	--	--	--	--	--
1997/98	--	--	5.26	--	--	--	--	--	--	--
Upland cotton										
		Cents/lb.					Cents/lb.			
1993/94	72.90	52.35	7/ 47.50	18.60	15.10	7.5/0/0	--	--	--	91
1994/95	72.90	50.00	7/ 50.00	4.60	15.30	11/0/0	--	--	--	89
1995/96	72.90	51.92	7/ 51.92	*0.0	15.50	0/0/0	--	--	--	79
1996/97	--	51.92	--	--	--	--	8.882	16.0	606.00	99
1997/98 <sup>8</sup>	--	51.92	--	--	--	--	7.400	16.2	609.00	99

-- = not available. 1. There are no Findley loan rates for rice or cotton. See footnotes 5 and 7. 2. Prior to 1996, national effective crop acreage base as determined by FSA. Net of CRP. 3. Program requirements for participating producers (mandatory acreage reduction program/mandatory paid land diversion/optional paid land diversion). Acres idled must be devoted to a conserving use to receive program benefits. 4. Percentage of effective base enrolled in acreage reduction programs. Stating in 1996, participation rate is the percent of eligible acres that entered production flexibility contracts. 5. A marketing loan has been in effect for rice since 1985/86. Loans may be repaid at the lower of: a) the loan rate or b) the adjusted world market price (announced weekly). Loans cannot be repaid at less than a specified fraction of the loan rate. Data refer to marketing-year average loan repayment rates Beginning with the 1996 crop, loans are repaid at the lower of the loan rate plus accumulated interest or the adjusted world price. 6. There are no target prices, base acres, acreage reduction programs or deficiency payment rates for soybeans. 7. A marketing loan has been in effect for cotton since 986/87. In 1987/88 and after, loans may be repaid at the lower of: a) the loan rate or b) the adjusted world market price (announced weekly; Plan B). Starting in 1991/92, loans cannot be repaid at less than 70 percent of the loan rate. Data refer to annual average loan repayment rates. Beginning with the 1996 crop, loans are repaid at the lower of the loan rate plus accumulated interest or the adjusted world price. 8. Estimated payment rates and acres under contract. \* Guaranteed payment rates for producers in the 50/85/92 program were \$0.034/lb. for upland cotton and \$4.21/cwt. for rice. Note: The 1996 Act replaced target prices and deficiency payments with fixed annual payments to producers. Information contact: Brenda Chewning, Farm Service Agency, (202)720-8838.

**Table 20—Fruit**

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
<b>Citrus<sup>1</sup></b>										
Production (1,000 tons)	12,761	13,186	10,860	11,285	12,452	15,274	14,561	15,799	16,009	17,468
Per capita consumpt. (lb.) <sup>2</sup>	25.4	23.6	21.4	19.1	24.4	26.0	25.0	24.1	24.9	27.6
<b>Noncitrus<sup>3</sup></b>										
Production (1,000 tons)	15,911	16,345	15,640	15,740	17,124	16,563	17,341	16,353	16,054	--
Per capita consumpt. (lb.) <sup>2</sup>	71.7	72.3	70.7	70.6	74.5	73.1	75.6	73.9	73.7	73.5
	1997									1998
	Jan	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
<b>Grower prices</b>										
Apples (cents/pound) <sup>4</sup>	23.2	14.8	14.6	14.1	19.0	24.7	25.3	22.9	23.7	22.3
Pears (cents/pound) <sup>4</sup>	26.8	25.1	29.2	15.5	16.5	18.0	16.7	16.5	14.4	12.7
Oranges (\$/box) <sup>5</sup>	3.72	4.76	4.62	5.08	6.93	6.95	3.69	2.15	2.53	2.58
Grapefruit (\$/box) <sup>5</sup>	2.07	-0.14	1.82	6.92	5.78	4.18	4.15	2.49	2.57	1.79
<b>Stocks, ending</b>										
Fresh apples (mil. lb.)	3868	1253	736	296	85	2968	5701	5171	4423	--
Fresh pears (mil. lb.)	153	34	10	65	117	616	585	446	337	--
Frozen fruits (mil. lb.)	982	726	776	939	1029	1053	1440	1356	1239	--
Frozen conc.orange juice (mil. single-strength gallons)	621	888	807	719	641	528	466	496	634	--

-- = Not available. 1. Year shown is when harvest concluded. 2. Fresh per capita consumption. 3. Calendar year. 4. Fresh use. 5. U.S. equivalent on-tree returns.

Information contact: Susan Pollack (202) 694-5257.

**Table 21—Vegetables**

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
<b>Production<sup>1</sup></b>										
Total vegetables (1,000 cwt)	467,914	543,435	562,938	565,754	677,976	675,793	762,934	742,595	759,347	752,266
Fresh (1,000 cwt) <sup>2, 4</sup>	228,191	240,289	240,519	230,689	378,503	374,500	393,377	387,972	406,130	425,670
Processed (tons) <sup>3, 4</sup>	11,986,160	15,157,290	16,120,960	16,753,270	14,973,630	15,064,660	18,477,850	17,731,160	17,660,860	16,329,800
Mushrooms (1,000 cwt) <sup>5</sup>	667,759	714,992	749,151	746,832	776,357	750,799	782,340	777,870	776,677	--
Potatoes (1,000 cwt)	356,438	370,444	402,110	417,622	425,367	428,693	467,054	443,606	498,633	459,912
Sweetpotatoes (1,000 cwt)	10,945	11,358	12,594	11,203	12,005	11,053	13,395	12,906	13,456	13,025
Dry edible beans (1,000 cwt)	19,253	23,729	32,379	33,765	22,615	21,913	29,028	30,812	27,960	29,156
	1996				1997					
	Dec	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Shipments (1,000 cwt)</b>										
Fresh	19,098	30,888	26,709	26,423	25,006	16,857	14,732	19,060	18,525	16,843
Iceberg lettuce	3,543	4,123	3,520	3,159	3,722	3,225	3,195	3,417	3,144	2,584
Tomatoes, all	3,329	4,965	2,980	3,565	3,747	2,648	2,356	3,367	2,737	3,196
Dry-bulb onions	3,185	4,020	3,000	2,623	3,559	3,162	3,437	4,172	3,270	2,997
Others <sup>6</sup>	9,041	17,780	17,209	17,076	13,978	7,822	5,744	8,104	9,374	8,066
Potatoes, all	13,428	23,489	17,139	11,472	10,661	8,352	9,589	13,328	12,180	11,925
Sweetpotatoes	304	211	173	121	168	127	152	375	636	172

1. Calendar year except mushrooms. 2. Includes fresh production of asparagus, broccoli, carrots, cauliflower, celery, sweet corn, lettuce, honeydews, onions, & tomatoes through 1991. 3. Includes processing production of snap beans, sweet corn, green peas, tomatoes, cucumbers (for pickles), asparagus, broccoli, carrots, & cauliflower. 4. Data after 1991 not comparable to previous years because commodity estimates reinstated in 1992 are included. 5. Fresh & processing agaricus mushrooms only. Excludes specialty varieties. Crop year July 1- June 30. 6. Includes snap beans, broccoli, cabbage, cauliflower, celery, sweet corn, cucumbers, eggplant, bell peppers, honeydews, & watermelons. -- = not available.

Information contacts: Gary Lucier (202) 694-5253.

**Table 22—Other Commodities**

	Annual			1996				1997		
	1994	1995	1996	I	II	III	IV	I	II	III
<b>Sugar</b>										
Production <sup>1</sup>	7,681	7,670	7,268	2,129	694	570	3,874	2,075	679	576
Deliveries <sup>1</sup>	9,321	9,451	9,633	2,215	2,390	2,557	2,471	2,215	2,436	2,643
Stocks, ending <sup>1</sup>	3,139	2,904	3,195	3,285	2,285	1,492	3,195	3,901	2,734	1,485
<b>Coffee</b>										
Composite green price N.Y. (cents/lb.)	138.62	142.18	104.74	107.55	109.46	103.13	98.82	134.80	172.99	143.29
Imports, green bean equiv. (mil. lbs.) <sup>2</sup>	2,048	2,182	2,494	714	571	570	639	--	--	--
	Annual			1996			1997			
	1994	1995	1996	Jul	Feb	Mar	Apr	May	Jun	Jul
<b>Tobacco</b>										
Avg. price to grower <sup>3</sup>										
Flue-cured (\$/lb.)	169.8	179.0	183.4	--	--	--	--	--	--	--
Burley (\$/lb.)	181.4	185.4	192.2	192.0	192.5	190.0	--	--	--	--
<b>Domestic consumption<sup>4</sup></b>										
Cigarettes (bil.)	488.6	487.3	486.0	37.2	37.7	30.4	39.1	37.8	42.3	43.2
Large cigars (mil.)	2,290.8	2,561.6	3,166.4	255.4	235.5	232.8	333.3	276.3	298.4	311.5

-- = Not available. 1. 1,000 short tons, raw value. Quarterly data shown at end of each quarter. 2. Net imports of green and processed coffee. 3. Crop year July-June for flue cured, Oct.-Sept. for burley. 4. Taxable removals. Information contact: Sugar, Ron Lord (202) 694-1269, tobacco, Tom Capehart (202) 694-5245



## U.S. Agricultural Trade

**Table 24—Prices of Principal U.S. Agricultural Trade Products**

	Annual			1996		1997				
	1995	1996	1997	Dec	Jul	Aug	Sep	Oct	Nov	Dec
<b>Export Commodities</b>										
Wheat, f.o.b. vessel, Gulf ports (\$/bu.)	4.82	5.63	4.35	4.79	3.81	4.13	4.08	4.16	4.09	3.95
Corn, f.o.b. vessel, Gulf ports (\$/bu.)	3.13	4.17	2.98	2.97	2.67	2.84	2.89	3.05	2.99	2.90
Grain sorghum, f.o.b. vessel, Gulf ports (\$/bu.)	3.13	3.90	2.89	2.76	2.72	2.83	2.72	2.92	2.90	2.85
Soybeans, f.o.b. vessel, Gulf ports (\$/bu.)	6.50	7.88	7.94	7.38	7.83	7.66	7.41	7.15	7.48	7.23
Soybean oil, Decatur (cents/lb.)	26.75	23.75	23.33	21.61	21.89	22.07	22.88	24.31	25.73	25.08
Soybean meal, Decatur (\$/ton)	173.70	246.67	266.70	250.64	273.58	273.32	278.29	229.28	245.34	225.52
Cotton, 7-market avg. spot (cents/lb.)	93.45	77.93	69.62	71.99	72.05	71.61	70.75	69.46	65.35	64.57
Tobacco, ag. price at auction (cents/lb.)	178.79	183.20	182.74	192.51	158.47	159.97	175.49	178.48	184.46	192.05
Rice, f.o.b., mill, Houston (\$/cwt)	16.68	19.64	20.88	19.75	21.38	21.13	20.55	19.75	19.75	19.75
Inedible tallow, Chicago (cents/lb.)	19.22	20.13	20.75	21.63	19.65	20.10	20.88	22.13	22.88	22.60
<b>Import commodities</b>										
Coffee, N.Y. spot (\$/lb.)	1.45	1.29	2.05	1.30	2.09	2.13	2.12	1.67	1.60	1.76
Rubber, N.Y. spot (cents/lb.)	82.52	72.88	55.40	66.14	51.98	52.45	51.89	51.35	48.14	40.61
Cocoa beans, N.Y. (\$/lb.)	0.61	0.62	0.69	0.63	0.72	0.71	0.77	0.76	0.73	0.76

Information contact: Mary Teymourian (202) 694-5284.

**Table 25—Indexes of Real Trade-Weighted Dollar Exchange Rates<sup>1</sup>**

	Annual			1996		1997				
	1994	1995	1996	Dec	Jul P	Aug P	Sep P	Oct P	Nov P	Dec P
1990=100										
Total U.S. trade	102.9	105.7	110.0	102.9	112.8	116.0	114.1	112.8	112.0	114.4
Agricultural trade										
U.S. markets	101.5	103.0	105.3	101.5	104.3	105.7	105.8	106.0	108.9	113.2
U.S. competitors	97.9	99.8	102.8	97.9	106.7	109.3	109.1	108.5	107.7	110.8
Wheat										
U.S. markets	101.0	101.9	102.9	101.0	102.0	103.0	103.9	104.9	106.9	111.2
U.S. competitors	103.7	105.2	107.8	103.7	109.6	111.3	112.7	111.9	112.1	114.3
Soybeans										
U.S. markets	98.7	101.1	104.6	98.7	104.7	106.4	105.5	105.4	107.6	111.7
U.S. competitors	64.5	64.4	64.4	64.5	65.0	65.3	65.5	65.8	65.9	66.2
Corn										
U.S. markets	99.5	101.3	103.7	99.5	100.4	101.6	102.4	103.2	107.5	112.7
U.S. competitors	92.4	94.1	95.9	92.4	100.5	102.3	100.9	100.3	99.5	101.3
Cotton										
U.S. markets	97.4	98.8	100.4	97.4	100.8	102.9	104.7	106.8	109.7	122.4
U.S. competitors	107.1	107.5	108.3	107.1	107.0	107.7	109.8	110.1	109.8	109.8

1. Real indexes adjust nominal exchange rates to avoid the distortion caused by different levels of inflation among countries. A higher value means the dollar has appreciated. "Total U.S. trade" Index uses the Federal Reserve Board Index of trade-weighted value of the U.S. dollar against 10 major countries. Weights are based on relative importance of major U.S. customers and competitors in world markets. Indexes are subject to revision for up to 1 year due to delayed reporting by some countries.

Information contact: Tim Baxter (202) 694-5318 or Andy Jerardo (202) 694-5323.

**Table 26—Trade Balance**

	Fiscal year <sup>1</sup>			1996		1997				
	1996	1997	1998 F	Dec	Jul	Aug	Sep	Oct	Nov	Dec
\$ million										
<b>Exports</b>										
Agricultural	59,891	57,365	58,500	5,249	3,998	4,427	4,489	5,534	5,481	5,243
Nonagricultural	512,999	569,892	--	44,751	47,076	48,161	49,253	52,322	49,288	50,779
Total <sup>2</sup>	572,890	627,257	--	50,000	51,074	52,588	53,742	57,856	54,769	56,022
<b>Imports</b>										
Agricultural	32,565	35,788	38,000	2,932	2,974	2,848	2,900	3,052	2,840	3,262
Nonagricultural	738,443	829,558	--	63,905	71,387	69,740	73,215	77,905	68,044	71,032
Total <sup>3</sup>	771,008	865,346	--	66,837	74,361	72,588	76,115	80,957	70,884	74,294
<b>Trade Balance</b>										
Agricultural	27,326	21,577	20,500	2,317	1,024	1,579	1,589	2,482	2,641	1,981
Nonagricultural	-225,444	-259,666	--	-19,154	-24,311	-21,579	-23,962	-25,583	-49,288	-20,253
Total	-198,118	-238,089	--	-16,837	-23,287	-20,000	-22,373	-23,101	-16,115	-18,272

F = forecast. -- = Not available. 1. Forecasts based on fiscal year (Oct. 1-Sep. 30). 2. Domestic exports including Department of Defense shipments (F.A.S. Value). 3. Imports for consumption (customs value). Revised 1990-96 data are from Foreign Agriculture Trade of the U.S. supplement.

Information contact: Mary Fant (202) 694-5272.

Table 27—U.S. Agricultural Exports &amp; Imports

	Calendar Year			Dec		Fiscal Year			Dec	
	1996	1997	1998 F	1996	1997	1996	1997	1998 F	1996	1997
	1,000 units					\$ million				
<b>EXPORTS</b>										
Animals, live (no.) <sup>1</sup>	504	1,335	--	67	189	440	508	--	62	87
Meats and preps., excl. poultry (mt) <sup>2</sup>	1,867	1,823	1,500	150	175	4,747	4,438	4,300	345	364
Dairy products (mt) <sup>1</sup>	146	103	--	4	13	736	869	800	55	84
Poultry meats (mt)	2,343	2,553	2,600	179	222	2,384	2,516	--	201	197
Fats, oils, and greases (mt)	1,400	1,056	900	87	107	674	543	--	43	57
Hides and skins incl. furskins	--	--	--	--	--	1,677	1,693	1,800	136	101
Cattle hides, whole (no.) <sup>1</sup>	22,040	20,761	--	1,768	1,232	1,176	1,232	--	105	72
Mink pelts (no.) <sup>1</sup>	3,422	3,600	--	77	220	107	96	--	2	4
Grains and feeds (mt) <sup>3</sup>	109,719	95,033	--	8,319	7,978	21,399	16,360	16,700	1,457	1,295
Wheat (mt) <sup>4</sup>	33,708	24,526	28,500	1,342	2,194	6,879	4,117	4,500	242	338
Wheat flour (mt)	477	511	500	44	62	147	141	--	12	17
Rice (mt)	2,826	2,560	2,700	344	243	1,001	959	1,000	129	90
Feed grains, incl. products (mt) <sup>5</sup>	59,270	53,738	55,100	5,385	4,273	9,552	7,159	6,900	752	532
Feeds and fodders (mt)	12,075	12,295	12,700	1,089	1,116	2,633	2,688	2,600	225	216
Other grain products (mt)	1,364	1,404	--	114	90	1,187	1,295	--	97	102
Fruits, nuts, and preps. (mt)	3,783	3,830	--	258	306	4,249	4,261	4,900	313	334
Fruit juices incl.										
froz. (1,000 hectoliters) <sup>1</sup>	10,018	10,455	--	532	781	646	658	--	40	52
Vegetables and preps. (mt)	3,152	3,353	--	249	281	3,733	4,089	2,800	319	356
Tobacco, unmanufactured (mt)	218	238	--	22	20	1,393	1,612	1,600	115	133
Cotton, excl. linters (mt) <sup>6</sup>	1,642	1,566	1,600	196	169	3,000	2,711	2,700	349	285
Seeds (mt)	660	1,200	--	159	85	714	913	900	120	101
Sugar, cane or beat (mt) <sup>1</sup>	289	139	--	8	8	108	60	--	4	4
Oilseeds and products (mt)	30,629	33,808	37,100	4,365	4,693	9,538	11,288	11,000	1,319	1,421
Oilseeds (mt)	23,078	24,735	--	3,383	3,344	6,842	7,875	--	966	944
Soybeans (mt)	22,372	24,027	26,700	3,313	3,279	6,312	6,950	6,700	912	891
Protein meal (mt)	5,753	6,671	--	737	1,083	1,353	1,795	--	198	291
Vegetable oils (mt)	1,797	2,402	--	245	266	1,343	1,618	--	156	186
Essential oils (mt)	41	46	--	4	3	573	619	--	49	36
Other	129	176	--	11	15	3,880	4,228	--	322	337
Total	156,018	144,924	157,900	14,011	14,075	59,891	57,365	58,500	5,249	5,243
<b>IMPORTS</b>										
Animals, live (no.) <sup>1</sup>	4,808	5,020	--	434	541	1,551	1,525	1,500	119	135
Meats and preps., excl. poultry (mt)	1,024	1,140	1,200	86	94	2,251	2,583	2,600	198	221
Beef and veal (mt)	695	785	--	58	62	1,325	1,552	--	112	134
Pork (mt)	252	260	--	22	24	711	766	--	66	64
Dairy products (mt) <sup>1</sup>	312	372	--	43	38	1,209	1,273	1,300	135	126
Poultry and products <sup>1</sup>	--	--	--	--	--	178	186	--	18	19
Fats, oils, and greases (mt)	52	76	--	4	7	45	58	--	3	6
Hides and skins, incl. furskins (mt)	--	--	--	--	--	192	210	--	22	22
Wool, unmanufactured (mt)	47	38	--	3	5	165	131	--	12	19
Grains and feeds (mt)	6,269	8,434	8,700	753	767	2,517	2,941	3,000	254	266
Fruits, nuts, and preps., excl. juices (mt) <sup>7</sup>	6,887	7,121	7,800	545	617	3,517	3,773	5,000	331	352
Bananas and plantains (mt)	4,007	3,950	4,100	306	334	1,177	1,218	1,300	92	96
Fruit juices (1,000 hectoliters) <sup>1</sup>	24,370	29,830	31,800	3,326	2,849	819	913	--	100	69
Vegetables and preps. (mt)	4,002	4,121	5,000	371	415	3,421	3,604	3,900	323	381
Tobacco, unmanufactured (mt)	259	337	400	24	26	770	1,179	1,200	67	104
Cotton, unmanufactured (mt)	179	27	--	2	1	286	34	--	2	2
Seeds (mt)	200	223	--	11	13	301	357	--	22	31
Nursery stock and cut flowers <sup>1</sup>	--	--	--	--	--	949	974	1,100	73	82
Sugar, cane or beet (mt)	2,733	2,932	--	154	154	1,050	1,013	--	52	53
Oilseeds and products (mt)	3,330	3,780	3,400	305	423	2,059	2,248	2,300	201	202
Oilseeds (mt)	779	985	--	61	96	324	374	--	23	34
Protein meal (mt)	991	967	--	68	110	171	181	--	12	18
Vegetable oils (mt)	1,560	1,828	--	176	217	1,565	1,693	--	166	151
Beverages excl. fruit juices (1,000 hectoliters) <sup>1</sup>	19,668	22,897	--	1,514	1,827	2,804	3,236	--	231	277
Coffee, tea, cocoa, spices (mt)	2,216	2,305	--	229	217	4,793	5,778	--	475	586
Coffee, incl. products (mt)	1,109	1,212	1,300	115	103	2,860	3,698	3,500	275	347
Cocoa beans and products (mt)	792	767	800	89	88	1,333	1,414	1,400	150	176
Rubber and allied gums (mt)	999	1,075	1,100	86	90	1,441	1,315	1,400	111	85
Other	--	--	--	--	--	2,248	2,458	--	183	223
Total	--	--	--	--	--	32,565	35,788	36,000	2,932	3,262

F = Forecast. -- = Not available. 1997 data are from *Foreign Agricultural Trade of the U.S.* 1998 forecasts are from *Outlook for U.S. Agricultural Exports*. Fiscal years begin October 1 and end September 30. 1. Not included in total volume. 2. Forecast includes only beef, pork, and variety meat. 3. Forecast includes pulses. 4. Forecast includes wheat flour. 5. Forecast excludes grain products. 6. Forecast includes linters. 7. Forecast includes juice.

Note: Totals include transshipments through Canada, but transshipments are not distributed by commodity as previously.

Note: Unadjusted transshipments through Canada for September 1997 exports.

Information contact: Mary Fant (202) 694-5272

Table 28—U.S. Agricultural Exports by Region

Region & country	Fiscal year			Dec		Change from year earlier			Dec	
	1996	1997	1998F	1996	1997	1996	1997	1998F*	1996	1997
	\$ million					Percent				
WESTERN EUROPE	9,542	9,600	9,500	967	996	8	1	--	-6	3
European Union <sup>1</sup>	9,180	8,982	8,800	945	966	8	-2	--	-6	2
Belgium-Luxembourg	694	709	--	891	61	15	2	--	33	-25
France	499	557	--	55	79	-5	12	--	-15	42
Germany	1,434	1,376	--	154	147	20	-4	--	14	-5
Italy	805	785	--	93	94	22	-3	--	-26	1
Netherlands	2,211	2,011	--	262	195	4	-9	--	15	-26
United Kingdom	1,197	1,289	--	106	130	14	8	--	-1	22
Portugal	317	243	--	6	18	20	-24	--	-87	228
Spain incl. Canary Islands	1,130	1,085	--	112	141	-8	-4	--	-31	27
Other Western Europe	363	619	700	21	30	-2	71	--	-30	42
Switzerland	179	506	--	14	21	21	183	--	-24	52
EASTERN EUROPE	408	317	400	32	26	33	-22	--	-44	-19
Poland	207	164	--	18	11	162	-21	--	-26	-39
Former Yugoslavia	83	72	--	6	8	-2	-13	--	167	45
Romania	55	37	--	6	1	-37	-32	--	-75	-79
Former Soviet Union	1,666	1,593	1,400	161	135	44	-4	--	0	-16
Russia	1,251	1,281	1,200	118	97	54	2	--	1	-18
ASIA <sup>2</sup>	28,611	26,388	23,600	2,437	2,066	7	-8	--	0	-15
West Asia (Mideast)	2,593	2,520	2,500	200	203	7	-3	--	-13	1
Turkey	621	742	--	71	58	21	20	--	78	-18
Iraq	0	50	--	3	15	0	--	--	100	442
Israel, incl. Gaza and W. Bank	626	543	500	46	50	35	-13	--	-6	8
Saudi Arabia	580	589	600	31	28	19	1	--	-60	-10
South Asia	729	728	800	47	72	-25	0	--	-38	51
Bangladesh	100	123	--	6	6	-60	23	--	-74	1
India	112	152	--	8	9	-41	35	--	74	4
Pakistan	394	418	500	30	54	1	6	--	-19	83
China	1,828	1,774	1,600	237	117	-24	-3	--	55	-51
Japan	11,882	10,713	10,900	882	848	11	-10	--	-5	-4
Southeast Asia	3,386	3,136	2,900	349	248	30	-7	--	-6	-29
Indonesia	909	768	--	87	84	28	-15	--	12	-4
Philippines	909	898	900	63	56	32	-1	--	-27	-10
Other East Asia	8,193	7,518	7,400	722	579	8	-8	--	5	-20
Korea, Rep.	3,731	3,287	3,300	338	155	4	-12	--	3	-54
Hong Kong	1,534	1,640	1,700	126	155	7	7	--	-3	23
Taiwan	2,927	2,588	2,400	257	268	14	-12	--	12	4
AFRICA	3,190	2,257	2,500	186	252	7	-29	--	-51	36
North Africa	2,257	1,477	1,700	117	189	7	-35	--	-60	61
Morocco	276	166	--	24	16	99	-40	--	-46	-35
Algeria	334	307	300	16	36	-27	-8	--	-64	133
Egypt	1,532	928	1,100	77	124	11	-39	--	-61	62
Sub-Sahara	933	780	800	69	63	6	-16	--	-19	-8
Nigeria	216	105	--	3	11	89	-52	--	-44	320
Rep. S. Africa	311	237	--	27	20	10	-24	--	29	-25
LATIN AMERICA and CARIBBEAN	9,991	9,978	11,100	928	1,110	21	0	--	17	19
Brazil	593	461	600	54	78	-12	-22	--	-11	46
Caribbean Islands	1,367	1,473	--	111	134	10	8	--	1	21
Central America	995	1,029	--	95	81	17	3	--	32	-15
Colombia	612	547	--	52	48	42	-11	--	-9	-7
Mexico	5,023	5,077	5,800	481	563	35	1	--	27	17
Peru	356	178	--	24	32	32	-50	--	20	35
Venezuela	451	552	600	38	34	-10	22	--	36	-10
CANADA	6,004	6,620	6,600	491	571	2	10	--	10	16
OCEANIA	478	534	600	48	45	-16	12	--	30	-6
TOTAL	59,891	57,365	58,500	5,249	5,243	9	-4	--	-2	0
Developed Countries	28,769	28,243	--	2,456	2,567	8	-2	--	-2	4
Developing countries	27,593	25,717	--	2,393	2,421	13	-7	--	-5	1
Other Countries	3,529	3,406	--	400	256	-2	-3	--	27	-36

F = Forecast. Fiscal year beginning Oct. 1 and ending Sept. 30. -- = Not available. 1. Austria, Finland, and Sweden are included in the European Union. 2. Asia forecasts exclude West Asia (Mideast). Note: Adjusted for transshipments through Canada, but transshipments are not distributed as previously.

Information contact: Mary Fant (202) 694-5272

## Farm Income

**Table 29—Farm Income Statistics**

	Calendar year									
	1989	1990	1991	1992	1993	1994	1995	1996	1997 F	1998 F
	<i>\$ billion</i>									
1. Farm receipts	169.4	177.8	176.1	179.5	186.6	190.4	197.8	213.3	212.9	209.0
Crops (incl. net CCC loans)	76.9	80.3	82.1	85.7	87.5	93.1	100.7	109.4	108.9	106.7
Livestock	83.9	89.2	85.8	85.6	90.2	88.2	87.0	92.9	92.6	91.3
Farm related <sup>1</sup>	8.6	8.2	8.2	8.2	9.0	9.2	10.1	11.0	11.4	11.0
2. Direct Government payments	10.9	9.3	8.2	9.2	13.4	7.9	7.3	7.3	7.9	7.4
Cash payments	9.1	8.4	8.2	9.2	13.4	7.9	7.3	7.3	7.9	7.4
Value of PIK commodities	1.7	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3. Gross cash income (1+2) <sup>2</sup>	180.3	187.1	184.3	188.7	200.1	198.3	205.0	220.6	220.8	216.4
4. Nonmoney income <sup>3</sup>	7.9	7.9	7.8	7.6	8.1	9.2	9.8	10.2	10.9	11.6
5. Value of inventory change	3.8	3.3	-0.2	4.2	-4.5	8.2	-3.9	2.7	1.3	0.1
6. Total gross farm income (3+4+5)	191.9	198.2	191.9	200.5	203.6	215.7	210.9	233.5	233.0	228.1
7. Cash expenses <sup>4</sup>	127.5	134.2	134.0	133.6	141.2	147.6	153.9	160.6	165.8	164.4
8. Total expenses	146.7	153.4	153.3	152.9	160.5	167.5	174.2	181.3	186.4	185.1
9. Net cash income (3-7)	52.8	52.9	50.3	55.1	58.8	50.7	51.2	59.9	55.0	52.0
10. Net farm income (6-8)	45.3	44.8	38.5	47.5	43.1	48.3	36.7	52.2	46.6	43.0

P = Preliminary. F = Forecast. 1. Income from machine hire, custom work, sales of forest products, and other miscellaneous cash sources. 2. Numbers in parentheses indicate the combination of items required to calculate a given item. 3. Value of home consumption of self-produced food and imputed gross rental value of farm dwellings. 4. Excludes capital consumption, perquisites to hired labor, and farm household expenses. Total may not add because of rounding. Note: 1988-92 accounts (primarily expenses) have been revised to reflect improved methods for estimating farm income. Call for information. Information contact: Dave Peacock (202) 694-5582

**Table 30—Average Income to Farm Operator Households<sup>1</sup>**

	1992	1993	1994	1995	1996P	1997F	1998F
	<i>\$ per farm</i>						
Net cash farm business income <sup>2</sup>	11,320	11,248	11,389	11,218	13,502	n.a.	n.a.
Less depreciation <sup>3</sup>	5,187	6,219	6,466	6,795	6,906	n.a.	n.a.
Less wages paid to operator <sup>4</sup>	216	454	425	522	531	n.a.	n.a.
Less farmland rental income <sup>5</sup>	360	534	701	769	672	n.a.	n.a.
Less adjusted farm business income due to other household(s) <sup>6</sup>	961	872	815	649	1,094	n.a.	n.a.
	<i>\$ per farm operator household</i>						
Equals adjusted farm business income	4,596	3,168	2,981	2,484	4,300	n.a.	n.a.
Plus wages paid to operator	216	454	425	522	531	n.a.	n.a.
Plus net income from farmland rental <sup>7</sup>	360	n.a.	n.a.	1,053	1,178	n.a.	n.a.
Equal farm self-employment income	5,172	3,623	3,407	4,059	6,009	n.a.	n.a.
Plus other farm-related earnings <sup>8</sup>	2,008	1,192	970	661	1,898	n.a.	n.a.
Equals earnings of the operator household from farming activities	7,180	4,815	4,376	4,720	7,906	5,294	4,730
Plus earnings of the operator household from off-farm sources <sup>9</sup>	35,731	35,408	38,092	39,671	42,455	42,292	43,709
Equals average farm operator household income	42,911	40,223	42,469	44,392	50,361	47,586	48,439
	<i>\$ per U.S. household</i>						
U.S. average household income <sup>10</sup>	38,840	41,428	43,133	44,938	47,123	n.a.	n.a.
	<i>Percent</i>						
Average farm operator household income as percent of U.S. average household income	110.5	97.1	98.5	98.8	106.9	n.a.	n.a.
Average operator household earnings from farming activities as percent of average operator household income	16.7	12.0	10.3	10.6	15.7	n.a.	n.a.

P = Preliminary. F = Forecast. n.a. = Not available. 1 This table derives farm operator income estimates from the Farm Costs and Returns Survey (FCRS) that are consistent with Current Population Survey (CPS) methodology. The CPS, conducted by the Census Bureau, is the source of official U.S. household income statistics. The CPS defines income to include any income received as cash. The CPS definition departs from a strictly cash concept by including depreciation as an expense that farm operators and other self-employed people subtract from gross receipts when reporting net cash income. 2. A component of farm sector income. Excludes income of contractors and landlords as well as the income of farms organized as nonfamily corporations or cooperatives and farms run by a hired manager. Includes income of farms organized as proprietorships, partnerships, and family corporations. 3. Consistent with the CPS definition of self-employment income, reported depreciation expenses are subtracted from net cash farm income. The FCRS collects farm business depreciation used for tax purposes. 4. Wages paid to operator are subtracted here because they are not shared among other households that have claims on farm business income. These wages are added to the operator household's adjusted farm business income to obtain farm self-employment income. 5. Gross rental income is subtracted because net rental income from the farm operation is added below to income received by the household. 6. More than one household may have a claim on the income of a farm business. On average 1.1 households share the income of a farm business. 7. Includes net rental income from the farm business. Also includes net rental income from farmland held by household members that is not part of the farm business. In 1992 gross rental income from the farm business was used because net rental income data were not collected. In 1993 and 1994, net rental income was collected as part of off-farm income. 8. Wages paid to other operator household members by the farm business and net income from a farm business other than the one being surveyed. 9. Wages, salaries, net income from nonfarm businesses, interest, dividends, transfer payments, etc. In 1993 and 1994, also includes net rental income from farmland. 10. From the CPS. Source: U.S. Department of Agriculture, Economic Research Service.

Information contact: Bob Hoppe (202) 694-5572; rhoppe@econ.ag.gov

**Table 31—Balance Sheet of the U.S. Farming Sector**

	Calendar year <sup>1</sup>									
	1989	1990	1991	1992	1993	1994	1995	1996	1997 F	1998 F
	<i>\$ per operator household</i>									
<b>Assets</b>										
Real estate	600.8	620.0	625.6	642.8	678.3	712.4	761.3	805.4	852.9	895.6
Non-real estate	211.6	219.8	218.0	226.2	232.4	230.6	224.1	229.5	230.1	235.9
Livestock and poultry	66.2	70.9	68.1	71.0	72.8	67.9	57.8	60.1	58.5	59.0
Machinery and motor vehicles	21.9	21.5	20.7	22.7	23.2	23.1	27.2	30.6	28.0	29.0
Crops stored <sup>2</sup>	2.6	2.8	2.7	3.9	3.8	5.0	3.4	4.4	4.7	4.5
Purchased inputs	36.8	38.3	40.6	43.1	46.6	47.9	49.0	48.9	49.0	50.5
Financial assets	812.4	839.9	843.5	868.9	910.7	943.0	985.4	1,034.9	1,083.0	1131.5
<b>Liabilities</b>										
Real estate debt <sup>3</sup>	76.0	74.7	74.9	75.4	76.3	78.0	79.6	81.9	84.1	86.5
Non-real estate debt <sup>4</sup>	61.9	63.2	64.3	63.6	65.9	69.1	71.5	74.2	78.1	81.2
Total farm debt	137.9	137.9	139.2	139.0	142.2	147.1	151.0	156.2	162.2	167.6
Total farm equity	674.5	701.9	704.3	729.9	768.5	795.9	834.3	878.7	920.8	963.8
	<i>Percent</i>									
<b>Selected ratios</b>										
Debt to assets	17.7	17.0	16.4	16.5	16.0	15.6	15.6	15.3	15.1	15.0
Debt to equity	21.6	20.4	19.6	19.8	19.0	18.5	18.5	18.1	17.8	17.6
Debt to net cash income	299	280	278	290	253	228	277	296	261	280

F = Forecast. 1. As of Dec. 31. 2. Non-CCC crops held on farms plus value above loan rates for crops held under CCC.

3. Excludes debt on operator dwellings, but includes CCC storage and drying facilities loans. 4. Excludes debt for nonfarm purposes.

Information contact: Dave Peacock (202) 694-5582

**Table 32—Cash Receipts from Farm Marketings, by State**

Region and State	Livestock and products				Crops <sup>1</sup>				Total <sup>1</sup>			
	1995	1996	Oct 1997	Nov 1997	1995	1996	Oct 1997	Nov 1997	1995	1996	Oct 1997	Nov 1997
	\$ million <sup>2</sup>											
<b>NORTH ATLANTIC</b>												
Maine	250	262	21	24	201	224	25	19	450	485	46	43
New Hampshire	63	72	6	7	86	89	11	9	149	161	16	16
Vermont	380	437	36	36	90	98	11	13	470	535	47	49
Massachusetts	99	109	9	9	336	369	44	59	436	478	53	68
Rhode Island	9	11	1	1	70	72	5	5	79	83	6	6
Connecticut	228	237	19	24	230	252	19	19	458	489	37	43
New York	1,852	2,045	160	164	1,006	998	96	89	2,859	3,043	255	254
New Jersey	196	196	16	16	577	605	51	54	773	801	68	70
Pennsylvania	2,553	2,865	229	222	1,216	1,278	138	139	3,769	4,143	368	361
<b>NORTH CENTRAL</b>												
Ohio	1,589	1,945	162	163	3,094	3,177	606	275	4,684	5,122	768	439
Indiana	1,759	1,895	142	167	3,428	3,663	835	265	5,187	5,558	977	432
Illinois	1,926	2,061	142	145	6,537	6,989	1,161	547	8,462	9,050	1,303	692
Michigan	1,343	1,448	115	117	2,283	2,195	324	246	3,626	3,643	439	363
Wisconsin	3,949	4,288	345	350	1,725	1,773	237	256	5,674	6,062	582	606
Minnesota	3,448	4,168	327	324	3,681	4,641	601	606	7,129	8,809	927	930
Iowa	5,022	5,457	384	372	6,234	7,396	1,139	832	11,256	12,853	1,523	1,204
Missouri	2,285	2,450	177	184	2,087	2,500	444	283	4,372	4,950	621	467
North Dakota	567	537	50	52	2,574	2,996	321	385	3,141	3,532	372	438
South Dakota	1,700	1,633	153	156	1,696	2,051	401	282	3,684	553	439	439
Nebraska	5,191	5,277	406	407	3,763	4,177	663	726	8,953	9,454	1,069	1,133
Kansas	4,536	4,570	353	345	3,035	3,299	769	366	7,572	7,869	1,122	711
<b>SOUTHERN</b>												
Delaware	517	573	43	35	162	184	35	23	679	757	78	58
Maryland	834	901	73	67	572	633	83	70	1,405	1,534	157	137
Virginia	1,393	1,478	129	122	838	900	161	118	2,230	2,378	290	240
West Virginia	312	308	30	25	79	80	6	7	391	388	36	32
North Carolina	3,726	4,427	364	353	3,165	3,404	672	361	6,891	7,831	1,036	714
South Carolina	613	737	67	62	816	865	115	79	1,430	1,602	182	140
Georgia	2,789	3,279	270	247	2,348	2,408	421	297	5,136	5,687	691	544
Florida	1,138	1,188	102	113	4,818	4,942	229	273	5,956	6,131	331	386
Kentucky	1,615	1,719	92	292	1,485	1,831	131	187	3,100	3,550	223	480
Tennessee	893	998	88	90	1,228	1,374	217	202	2,120	2,372	305	292
Alabama	2,167	2,363	193	162	705	811	175	108	2,872	3,174	368	270
Mississippi	1,686	1,934	157	142	1,448	1,529	281	243	3,134	3,463	438	386
Arkansas	3,022	3,357	257	233	2,068	2,530	594	397	5,090	5,887	851	630
Louisiana	630	687	52	55	1,383	1,655	294	260	2,013	2,342	346	315
Oklahoma	2,572	2,439	237	260	1,091	1,126	108	83	3,663	3,566	344	343
Texas	8,451	7,758	608	604	4,658	5,295	616	514	13,108	13,053	1,224	1,118
<b>WESTERN</b>												
Montana	796	797	70	78	1,074	1,230	104	138	1,870	2,027	174	216
Idaho	1,221	1,329	118	119	1,932	2,081	278	288	3,153	3,410	396	407
Wyoming	544	478	74	94	184	184	15	39	728	662	89	133
Colorado	2,743	2,759	250	234	1,414	1,470	133	195	4,156	4,229	383	429
New Mexico	961	1,197	109	119	498	512	52	54	1,458	1,709	160	173
Arizona	810	839	68	67	1,347	1,308	109	136	2,157	2,146	177	203
Utah	591	646	66	58	221	227	27	22	812	873	93	80
Nevada	164	153	16	10	118	133	13	12	282	286	29	23
Washington	1,583	1,664	139	148	3,631	4,017	523	407	5,215	5,681	662	556
Oregon	660	657	69	67	2,049	2,320	334	271	2,709	2,977	403	338
California	5,549	6,213	530	554	16,973	17,096	2,346	2,125	22,523	23,310	2,876	2,679
Alaska	6	6	1	1	24	23	2	2	30	29	3	3
Hawaii	72	66	6	6	423	417	37	35	494	483	42	41
<b>UNITED STATES</b>	<b>87,004</b>	<b>92,914</b>	<b>7,530</b>	<b>7,706</b>	<b>100,700</b>	<b>109,425</b>	<b>16,008</b>	<b>12,421</b>	<b>187,704</b>	<b>202,339</b>	<b>23,538</b>	<b>20,127</b>

1. Sales of farm products include receipts from commodities placed under nonrecourse CCC loans, plus additional gains realized on redemptions during the period. 2. Estimates as of end of current month. Totals may not add because of rounding.

Information contact: Roger Strickland (202) 694-5592. To receive current monthly cash receipts contact Larry Traub at (202) 694-5593 or ltraub@econ.ag.gov

**Table 33—Cash Receipts from Farming**

	Annual			1996	1997					
	1994	1995	1996	Nov	Jun	Jul	Aug	Sep	Oct	Nov
	<i>\$ million</i>									
Commodity sales*	181,239	187,704	202,339	20,993	13,258	14,886	14,310	17,706	23,538	20,127
Livestock and products	88,160	87,004	92,914	8,324	7,626	8,256	7,786	8,185	7,530	7,706
Meat animals	46,785	44,828	44,382	3,837	4,017	4,219	3,925	4,489	3,660	3,654
Dairy products	19,935	19,894	22,834	1,947	1,652	1,649	1,687	1,653	1,821	1,822
Poultry and eggs	18,445	19,069	22,326	2,120	1,703	1,877	1,914	1,748	1,816	1,810
Other	2,995	3,214	3,371	420	254	511	260	295	233	420
Crops	93,079	100,700	109,425	12,670	5,633	6,631	6,524	9,521	16,008	12,421
Food grains	9,545	10,417	11,550	795	900	1,421	881	1,050	907	712
Feed crops	20,351	24,282	28,114	3,534	1,087	1,082	1,183	1,924	3,991	3,453
Cotton (lint and seed)	6,738	6,851	7,461	1,531	117	106	173	357	1,180	1,435
Tobacco	2,656	2,548	2,796	157	0	79	329	488	475	252
Oil-bearing crops	14,657	15,466	17,756	1,958	586	762	625	1,465	4,847	1,986
Vegetables and melons	13,902	14,891	14,349	862	1,271	1,298	1,633	1,592	1,593	871
Fruits and tree nuts	10,335	11,074	11,714	1,708	817	979	807	1,210	1,483	1,587
Other	14,895	15,170	15,686	2,123	854	903	894	1,435	1,533	2,125
Government payments	7,879	7,253	7,286	56	26	26	38	3,008	1,626	35
Total	189,118	194,957	209,625	21,050	13,284	14,912	14,348	20,714	25,164	20,162

\*Sales of farm products include receipts from commodities placed under nonrecourse CCC loans, plus additional gains realized on redemptions during the period.

Information contact: Roger Strickland (202) 694-5592. To receive current monthly cash receipts contact Larry Traub at (202) 694-5593 or ltraub@econ.ag.gov

**Table 34—Farm Production Expenses**

	Calendar year									
	1989	1990	1991	1992	1993	1994	1995	1996	1997 F	1998 F
	<i>\$ million</i>									
Feed purchased	20,744	20,388	19,333	20,133	21,431	22,631	23,829	25,234	25,173	24,308
Livestock and poultry purchased	12,935	14,642	14,129	13,574	14,597	13,270	12,335	11,148	13,995	13,300
Seed purchased	4,397	4,519	5,113	4,913	5,165	5,376	5,463	6,112	6,391	6,325
Farm-origin inputs	38,076	39,548	38,575	38,620	41,194	41,277	41,628	42,495	45,560	43,934
Fertilizer and lime	8,174	8,206	8,666	8,331	8,398	9,180	10,033	10,934	10,824	10,892
Fuels and oils	4,772	5,790	5,607	5,298	5,350	5,312	5,448	5,736	5,664	5,628
Electricity	2,648	2,606	2,633	2,610	2,676	2,682	2,968	3,198	3,141	3,106
Pesticides	5,011	5,363	6,321	6,471	6,723	7,225	7,726	8,525	8,730	8,725
Manufactured inputs	20,605	21,965	23,228	22,710	23,147	24,398	26,175	28,393	28,359	28,352
Short-term interest	6,743	6,656	6,130	5,395	5,333	5,954	6,685	6,862	7,000	7,100
Real estate interest <sup>1</sup>	7,190	6,781	5,989	5,742	5,489	5,782	6,042	6,357	6,400	6,500
Total interest charges	13,933	13,437	12,119	11,138	10,822	11,735	12,726	13,218	13,400	13,600
Repair and maintenance <sup>1</sup>	8,407	8,554	8,632	8,471	9,193	9,083	9,458	10,304	10,656	10,834
Contract and hired labor	12,029	14,113	13,900	14,000	15,006	15,309	16,316	17,348	18,207	18,737
Machine hire and custom work	3,378	3,574	3,523	3,782	4,420	4,790	4,792	4,692	4,860	4,824
Marketing, storage, and transportation	4,207	4,211	4,719	4,541	5,648	6,821	7,180	6,818	7,193	7,155
Misc. operating expenses <sup>1,2</sup>	12,977	13,844	14,654	14,061	15,554	17,146	18,270	17,985	18,074	17,764
Other operating expenses	40,945	44,297	45,427	44,854	49,822	53,148	56,016	57,147	58,990	59,314
Capital consumption <sup>1</sup>	18,117	18,128	18,184	18,310	18,378	18,688	18,914	18,930	19,005	19,038
Taxes <sup>1</sup>	5,505	5,862	5,815	6,117	6,177	6,490	6,717	6,828	6,994	7,053
Net rent to nonoperator landlords	9,428	10,052	9,924	11,188	11,009	11,720	11,984	14,293	14,130	13,836
Other overhead expenses	33,050	34,042	33,923	35,614	35,564	36,898	37,615	40,050	40,129	39,927
Total production expenses	146,660	153,290	153,273	152,936	160,548	167,457	174,161	181,303	186,438	185,127

F = Forecast. 1. Includes operator dwellings. 2. Beginning in 1982, miscellaneous operating expenses include other livestock purchases, dairy assessments and feeding fees paid by nonoperators. Totals may not add because of rounding.

Information contacts: Chris McGath (202) 694-5579, Dave Peacock (202) 694-5582

Table 35—CCC Net Outlays by Commodity &amp; Function

	Fiscal year									
	1990	1991	1992	1993	1994	1995	1996	1997	1998 E	1999 E
	\$ million									
COMMODITY/PROGRAM										
Feed grains:										
Corn	2,435	2,387	2,105	5,143	625	2,090	2,021	2,587	2,648	2,577
Grain sorghum	349	243	190	410	130	153	261	284	286	280
Barley	-94	71	174	186	202	129	114	109	145	126
Oats	-5	12	32	16	5	19	8	8	9	8
Corn and oat products	8	9	9	10	10	1	0	0	0	0
Total feed grains	2,693	2,722	2,510	5,765	972	2,392	2,404	2,988	3,088	2,991
Wheat and products	796	2,805	1,719	2,185	1,729	803	1,491	1,332	1,556	1,468
Rice	667	867	715	887	836	814	499	459	519	471
Upland cotton	-79	382	1,443	2,239	1,539	99	685	561	859	878
Tobacco	-307	-143	29	235	693	-298	-496	-156	-183	-160
Dairy	505	839	232	253	158	4	-98	67	191	116
Soybeans	5	40	-29	109	-183	77	-65	5	10	22
Peanuts	1	48	41	-13	37	120	100	6	0	-1
Sugar	15	-20	-19	-35	-24	-3	-63	-34	-38	-39
Honey	47	19	17	22	0	-9	-14	-2	0	0
Wool	104	172	191	179	211	108	55	0	0	0
Operating expense <sup>1</sup>	618	625	6	6	6	6	6	6	5	6
Interest expenditure	632	745	532	129	-17	-1	140	-111	-56	-28
Export programs <sup>2</sup>	-34	733	1,459	2,193	1,950	1,361	-422	125	111	547
Disaster/tree/ livestock assistance <sup>3</sup>	161	121	1,054	944	2,566	660	95	130	15	4
Conservation reserve program	0	0	0	0	0	0	7	105	297	346
Other conservation programs	647	155	-162	949	-137	-103	320	104	394	432
Total	6,471	10,110	9,738	16,047	10,336	6,030	4,646	7,256	8,566	8,747
Function										
Price support loans (net)	-399	418	584	2,065	527	-119	-951	110	-88	-119
Cash direct payments: <sup>4</sup>										
Production flexibility contract	0	0	0	0	0	0	5,141	6,320	5,719	5,512
Deficiency	4,178	6,224	5,491	8,607	4,391	4,008	567	-1,118	-13	0
Diversion	0	0	0	0	0	0	0	0	0	0
Dairy termination	189	96	2	0	0	0	0	0	0	0
Loan Deficiency	3	21	214	387	495	29	0	0	0	0
Other	0	0	140	149	171	97	95	7	203	250
Disaster	0	0	0	0	0	0	0	0	0	0
Conservation reserve program	0	0	0	0	0	0	2	1,671	1,798	1,694
Other conservation programs	0	0	0	0	0	0	0	85	244	303
Non-Insured Assistance (NAP)	0	0	0	0	0	0	2	52	69	80
Total direct payments	4,370	6,341	5,847	9,143	5,057	4,134	5,807	7,017	8,020	7,839
Crop disaster <sup>3</sup>	5	6	960	872	2,461	584	14	2	0	0
Emergency livestock/tree/ forage assistance	156	115	94	72	105	76	81	128	15	4
Purchases (net)	-48	646	321	525	293	-51	-249	-60	129	74
Producer storage payments	185	1	14	9	12	23	0	0	0	0
Processing, storage, and transportation	278	240	185	136	112	72	51	33	33	34
Operating expense <sup>1</sup>	618	625	6	6	6	6	6	6	5	6
Interest expenditure	632	745	532	129	-17	-1	140	-111	-56	-28
Export programs <sup>2</sup>	-34	733	1,459	2,193	1,950	1,361	-422	125	111	547
Other	708	240	-264	897	-170	-55	169	6	397	390
Total	6,471	10,110	9,738	16,047	10,336	6,030	4,646	7,256	8,566	8,747

E = Estimated in the FY 1999 President's Budget which was released February 2, 1998 based on November 1997 supply and demand estimates. The CCC outlays shown for 1996-1999 include the impact of the Federal Agriculture Improvement and Reform Act of 1996, which was enacted April 4, 1996. Minus (-) indicates a net receipt (excess of repayments or other receipts over gross outlays of funds). 1. Does not include CCC Transfers to General Sales Manager. 2. Includes Export Guarantee Program, Direct Export Credit Program, CCC Transfers to the General Sales Manager, Market Promotion Program, starting in FY 1991 and starting in FY 1992 the Export Guarantee Program - Credit Reform, Export Enhancement Program, Dairy Export Incentive Program, and Technical Assistance to Emerging Markets. 3. Approximately \$1.5 billion in benefits to farmers under the Disaster Assistance Act of 1989 were paid in generic certificates and were not recorded directly as disaster assistance outlays. 4. Includes cash payments only. Excludes generic certificates in FY 86-96.

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## Food Expenditures

**Table 36—Food Expenditures**

	Annual			1996			1997			
	1994	1995	1996	Dec	Jul	Aug R	Sep R	Oct R	Nov P	Dec P
	<i>\$ billion</i>									
Sales <sup>1</sup>										
At home <sup>2</sup>	341.3	354.2	367.5	33.9	33.0	32.8	29.1	32.0	30.1	29.8
Away from home <sup>3</sup>	268.7	280.8	288.5	24.1	26.2	26.8	24.9	25.2	22.9	24.5
	<i>1995 \$ billion</i>									
Sales <sup>1</sup>										
At home <sup>2</sup>	365.4	367.3	367.5	32.0	32.3	31.9	28.3	31.0	29.2	28.9
Away from home <sup>3</sup>	281.6	287.7	288.5	23.1	25.5	26.0	24.1	24.3	22.1	23.5
	<i>Percent change from year earlier (\$ bil.)</i>									
Sales <sup>1</sup>										
At home <sup>2</sup>	5.0	3.8	3.8	1.0	5.7	3.2	-1.5	3.4	-4.6	-13.1
Away from home <sup>3</sup>	5.2	4.5	2.7	0.7	4.8	3.3	5.8	2.5	-4.8	-0.1
	<i>Percent change from year earlier (1995 \$ bil.)</i>									
Sales <sup>1</sup>										
At home <sup>2</sup>	2.1	0.5	0.1	-3.8	-4.7	0.8	-3.2	2.0	-5.7	-13.9
Away from home <sup>3</sup>	3.4	2.2	0.3	-2.3	1.4	0.5	2.9	-0.1	-7.2	-2.6

R = Revised. P = Preliminary. 1. Food only (excludes alcoholic beverages). Not seasonally adjusted. 2. Excludes donations and home production. 3. Excludes donations, child nutrition subsidies, and meals furnished to employees, patients, and inmates.

NOTE: This table differs from Personal Consumption Expenditures (PCE), table 2, for several reasons: (1) this series includes only food, excluding alcoholic beverages and pet food which are included in PCE; (2) this series is not seasonally adjusted, whereas PCE is seasonally adjusted at annual rates; (3) this series reports sales only, but PCE includes food produced and consumed on farms and food furnished to employees; (4) this series includes all sales of meals and snacks. PCE includes only purchases using personal funds, excluding business travel and entertainment. For a more complete discussion of the differences, see "Developing an Integrated Information System for the Food Sector," Agr. Econ. Rpt. No. 575, Aug. 1987.

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## Transportation

**Table 37—Rail Rates; Grain & Fruit-Vegetable Shipments**

	Annual			1996			1997			
	1995	1996 R	1997 P	Dec	Jul	Aug R	Sep P	Oct P	Nov P	Dec P
Rail freight rate index <sup>1</sup> (Dec. 1984=100)										
All products	111.7	111.5	112.1	111.5	112.4	112.4	112.6	112.5	112.6	112.6
Farm products	115.6	115.9	119.9	117.3	121.1	121.1	121.2	121.1	121.1	122.3
Grain <sup>6</sup>	117.1	118.0	---	119.7	---	--	--	--	--	--
Food products	111.7	108.8	107.6	107.4	108.4	108.4	108.7	108.4	108.4	108.7
Barge freight rate index <sup>1</sup> (Dec 1990=100)										
Grain	172.6	129.5	107.2	109.0	86.9	93.9	114.5	162.5	119.7	105.0
Grain shipments										
Rail carloadings (1,000 cars) <sup>2</sup>	28.9	25.2	23.4	23.8	20.8	22.9	20.6	25.6	23.8	26.2
Barge shipments (mil. ton) <sup>3,5</sup>	3.5	3.1	2.4	--	3.5	2.9	2.2	7/0.0	0.9	--
Fresh fruit and vegetable shipments <sup>4</sup>										
Piggy back (mil. cwt)	1.3	1.1	1.0	1.0	1.2	0.8	0.9	0.7	0.9	0.8
Rail (mil. cwt)	1.9	1.6	1.7	2.2	1.7	0.9	0.9	1.3	1.6	1.7
Truck (mil. cwt)	40.5	35.7	42.6	38.0	44.0	39.6	36.2	39.5	39.9	38.6
Cost of operating trucks hauling produce <sup>4</sup>										
Fleet operation (cents/mile)	130.3	123.0	135.4	136.6	134.5	135.2	134.9	135.7	136.5	--

P = Preliminary. R = Revised. -- = Not available. 1. Department of Labor, Bureau of Labor Statistics. 2. Weekly average; from Association of American Railroads. 3. Shipments on Illinois and Mississippi waterways, U.S. Corps of Engineers. 4. Agricultural Marketing Service, USDA. 5. Annual 1996 is 7-months average. Annual data are calendar year. 6. Discontinued.

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## Indicators of Farm Productivity

Table 38—Indexes of Farm Production, Input Use, & Productivity<sup>1</sup>

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994 2/
	<i>1982=100</i>									
Farm output	103	100	102	95	103	108	109	116	109	122
All livestock products	104	105	107	109	110	111	114	117	117	122
Meat animals	99	100	101	103	103	103	106	107	107	110
Dairy products	105	106	105	107	106	109	109	112	111	113
Poultry and eggs	108	112	122	125	130	138	144	151	157	165
All crops	102	97	98	86	98	106	105	115	102	121
Feed crops	107	102	91	67	91	94	92	107	82	110
Food crops	88	77	77	70	77	99	75	93	88	89
Oil crops	96	88	88	72	87	87	93	99	85	114
Cotton and cotton seed	114	83	128	133	104	133	151	139	139	171
Tobacco	77	58	61	69	71	83	85	88	83	80
Vegetables and melons	109	110	120	109	114	125	130	134	128	143
Other crops	98	95	108	116	111	110	109	114	122	125
Farm input	93	90	88	88	87	89	90	88	89	89
Farm labor	91	84	84	86	87	85	88	83	80	80
Farm real estate	97	95	91	91	93	92	91	91	89	90
Durable equipment	86	80	74	70	67	65	63	61	60	58
Energy	90	84	93	93	92	92	92	92	92	95
Agricultural chemicals	100	110	101	92	96	99	104	104	109	111
Feed, seed, and purchased livestock	93	94	91	90	86	93	93	94	95	96
Other purchased inputs	95	85	92	94	98	99	101	99	106	111
Farm output per unit of input	110	111	115	109	118	122	121	131	123	136
Output per unit of labor										
Farm <sup>2</sup>	114	119	121	111	119	127	123	139	136	152
Nonfarm <sup>3</sup>	107	110	110	110	111	111	112	116	116	117

P = Preliminary. 1. New data and methods were used to calculate the indexes, which have been revised back to 1948. 2. Economic Research Service.

3. Bureau of Labor Statistics.

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## Food Supply & Use

**Table 39—Per Capita Consumption of Major Food Commodities<sup>1</sup>**

Commodity	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996 P
	<i>Lbs.</i>									
Red meats <sup>2,3,4</sup>	117.4	119.5	115.9	112.3	111.9	114.1	112.1	114.7	114.7	112.0
Beef	69.6	68.6	65.4	64.0	63.1	62.8	61.5	63.6	64.0	64.2
Veal	1.3	1.1	1.0	0.9	0.8	0.8	0.8	0.8	0.8	1.0
Lamb & mutton	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.8
Pork	45.6	48.8	48.4	46.4	46.9	49.5	48.9	49.5	49.0	46.0
Poultry <sup>2,3,4</sup>	51.0	51.9	53.9	56.3	58.3	60.8	62.5	63.3	62.9	64.3
Chicken	39.4	39.6	40.9	42.5	44.3	46.7	48.5	49.3	48.8	49.8
Turkey	11.6	12.4	13.1	13.8	14.1	14.1	14.0	14.1	14.1	14.6
Fish and shellfish <sup>3</sup>	16.1	15.1	15.6	15.0	14.8	14.7	14.9	15.1	14.9	14.7
Eggs <sup>4</sup>	32.7	31.8	30.5	30.2	30.1	30.3	30.4	30.6	30.2	30.4
Dairy products										
Cheese (excluding cottage) <sup>2,5</sup>	24.1	23.7	23.8	24.6	25.0	26.0	26.2	26.8	27.3	27.7
American	12.4	11.5	11.0	11.1	11.1	11.3	11.4	11.5	11.8	12.0
Italian	7.6	8.1	8.5	9.0	9.4	10.0	9.8	10.3	10.4	10.8
Other cheeses <sup>6</sup>	4.1	4.1	4.3	4.5	4.6	4.7	5.0	5.0	5.0	5.0
Cottage cheese	3.9	3.9	3.6	3.4	3.3	3.1	2.9	2.8	2.7	2.6
Beverage milks <sup>2</sup>	226.5	222.3	224.2	221.8	221.2	218.3	213.4	213.5	209.7	210.0
Fluid whole milk <sup>7</sup>	111.9	105.7	97.5	90.4	87.3	84.0	80.1	78.8	75.3	74.8
Fluid lowfat milk <sup>8</sup>	100.6	100.5	106.5	108.4	109.9	109.3	106.5	105.9	102.5	101.5
Fluid skim milk	14.0	16.1	20.2	22.9	23.9	25.0	26.7	28.7	31.9	33.7
Fluid cream products <sup>9</sup>	7.6	7.6	7.8	7.6	7.7	8.0	8.0	8.1	8.4	8.7
Yogurt (excluding frozen)	4.3	4.5	4.2	4.0	4.2	4.2	4.3	4.7	5.1	4.8
Ice cream	18.4	17.3	16.1	15.8	16.3	16.3	16.1	16.1	15.7	15.9
Ice milk	7.4	8.0	8.4	7.7	7.4	7.1	6.9	7.6	7.5	7.6
Frozen yogurt	--	--	2.0	2.8	3.5	3.1	3.5	3.5	3.5	2.7
All dairy products, milk equivalent, milkfat basis <sup>10</sup>	601.2	582.5	563.8	568.5	565.7	565.9	574.0	585.8	584.1	575.6
Fats and oils --Total fat content	62.9	63.5	60.8	62.8	65.4	67.4	70.2	68.5	66.8	65.6
Butter and margarine (product weight)	15.2	14.8	14.6	15.3	15.0	15.4	15.8	14.7	13.7	13.4
Shortening	21.4	21.5	21.5	22.2	22.4	22.4	25.1	24.1	22.5	22.2
Lard and edible tallow (direct use)	2.7	2.6	2.1	2.4	3.1	4.1	3.9	4.7	4.9	5.3
Salad and cooking oils	25.4	26.3	24.4	24.8	26.7	27.2	26.8	26.2	26.8	26.0
Fresh fruits <sup>11</sup>	121.6	120.9	122.9	116.3	113.0	123.5	124.9	126.4	124.5	129.2
Canned fruit <sup>12</sup>	18.4	18.5	19.0	18.4	17.1	19.8	18.0	18.3	15.0	16.4
Dried Fruit	3.1	3.3	3.3	3.1	3.0	2.8	3.0	3.0	2.8	2.8
Frozen Fruit	3.6	3.4	3.7	3.5	3.5	3.8	3.4	2.9	4.2	3.9
Selected fruit juices <sup>13</sup>	72.8	68.3	70.5	66.2	66.6	63.6	74.9	71.6	75.6	75.5
Vegetables <sup>11</sup>										
Fresh	162.4	167.4	172.2	166.2	163.3	171.3	172.3	175.6	176.3	178.7
Canning	99.1	94.8	102.4	110.9	113.3	111.6	112.1	107.6	110.4	109.4
Freezing	67.0	64.2	67.6	70.5	72.8	71.6	76.7	81.4	78.2	83.3
Dehydrated and chips	29.9	29.3	29.9	31.8	32.6	32.1	33.0	31.6	31.2	32.9
Pulses	5.7	7.5	6.3	7.1	7.8	8.2	7.8	8.4	8.5	8.0
Peanuts (shelled)	6.4	6.9	7.0	6.0	6.5	6.2	6.0	5.8	5.7	5.7
Tree nuts (shelled)	2.2	2.3	2.2	2.4	2.2	2.2	2.2	2.3	1.9	2.1
Flour and cereal products <sup>14</sup>	171.4	175.5	174.5	182.0	183.6	186.2	191.0	194.1	192.4	197.7
Wheat flour	129.8	132.7	133.1	137.0	138.0	141.2	144.4	147.3	149.8	152.0
Rice (milled basis)	14.0	14.3	15.2	16.3	16.8	17.5	17.6	19.3	20.1	18.8
Caloric sweeteners <sup>15</sup>	131.6	132.7	133.1	137.0	138.0	141.2	144.4	147.3	149.8	152.0
Coffee (green bean equiv.)	10.2	9.8	10.1	10.3	10.3	10.0	9.1	8.2	8.0	9.0
Cocoa (chocolate liquor equiv.)	3.8	3.8	4.0	4.3	4.6	4.6	4.3	3.9	3.6	--

-- = Not available. P = Preliminary. 1. In pounds, retail weight unless otherwise stated. Consumption normally represents total supply minus exports, nonfood use, and ending stocks. Calendar-year data except fresh citrus fruits, peanuts, tree nuts, and rice which are on crop-year basis. 2. Totals may not add due to rounding. 3. Boneless, trimmed weight. Chicken series revised to exclude amount of ready-to-cook chicken going to pet food as well as some water leakage that occurs when chicken is cut up before packaging. 4. Excludes shipments to the U.S. territories. 5. Whole and part-skim milk cheese. Natural equivalent of cheese and cheese products. 6. Includes Swiss, Brick, Munster, cream, Neufchatel, Blue, Gorgonzola, Edam, and Gouda. 7. Plain and flavored. 8. Plain and flavored and buttermilk. 9. Heavy cream, light cream, half and half, eggnog and sour cream and dip. 10. Includes condensed and evaporated milk and dry milk products. 11. Farm weight. 12. Excludes pineapples and berries. 13. Single strength equivalent. 14. Includes rye, corn, oat, and barley products. Excludes quantities used in alcoholic beverages, corn sweeteners, and fuel. 15. Dry weight equivalent.

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